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EARLY USE OF THE ROENTGEN RAY IN THE STUDY OF THE ALIMENTARY CANAL*

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My reasons for preparing the present paper were various. First of all, I must confess to never having carefully looked up the historical sequence of early literature on the technic of applying the Roentgen rays to the alimentary canal, and I wished to do that. Second, an account of the first Roentgen-ray experiments on the digestive tract performed in the Harvard Physiological Laboratory has never been written, and that, I thought, might be interesting to members of the American Roentgen Ray Society. Finally, my activities during the past few years have not been concerned with use of the Roentgen rays, and when asked to speak here, I had nothing else to bring than the story of these early observations.

When in December, 1895, Roentgen[1] announced the discovery of a "new kind of rays," he pointed out that the salts of metals, either solid or in solution, behaved generally as the metals themselves, in obstructing the passage of his new rays.[1] Within two months, in February, 1896, the possibility of rendering hollow organs visible by injecting them with salts was demonstrated by Dutto,[2] who filled arteries with plaster of Paris and then photographed them. A month later, in March, 1896, Becher[3] published a roentgenogram of a dead guinea-pig in which he had distended the stomach and a loop of the small intestine with lead subacetate; the stomach shadow was quite indistinct, but the intestinal loop showed clearly. In April, 1896, Wegele[4] suggested that it would be possible to introduce a spiral electrode into the human stomach and by roentgenographing it to determine the limits of the greater curvature; it was not until a year later, however, that the suggestion was carried out by Lindemann,[5] who introduced a soft stomach-tube enclosing a fine copper wire and obtained a roentgenogram of the wire as it lay along the lower gastric border. Meanwhile Hemmeter,[6] having noted Becher's roentgenogram of the dead guinea-pig with stomach and intestine made visible by injected lead salts, and having recently devised an intragastric bag, proposed that the bag be pushed into the stomach and filled with a solution of lead acetate to render the shape of the stomach capable of being roentgenographed. I am not aware that Hemmeter's proposal was ever put to practical test.

In the fall of 1896, when I was a first-year student in the Harvard Medical School, and Mr. Albert Moser, a Cambridge acquaintance, was a second-year student, we went to Prof. H. P. Bowditch and asked for an opportunity to undertake a physiologic investigation. He suggested that we test by means of the newly discovered Roentgen rays the Kronecker-Meltzer view of deglutition—namely, that substances when swallowed are shot down the esophagus by pressure developed in the mouth, and are not pushed down by a peristaltic wave. A small static machine and some simple tubes were secured, and we set to work. Our first observation was made on Dec. 9, 1896, when we watched globular pearl buttons pass down the esophagus of a dog. On December 14, we repeated the observations on a rooster whose neck was kept straight by fastening the head and body in fixed positions.

That substances vary in their opacity to the Roentgen ray in accordance with their molecular weight was then common knowledge. Barium and bismuth were selected from among the heavy metals, and barium sulphate and bismuth subnitrate were chosen as salts which, because practically insoluble, would serve our purposes. Since bismuth subnitrate was a pharmacopeial preparation we determined first to use that.[7] On Dec. 16, 1896, we gave a frog a gelatin capsule filled with this bismuth salt, and after seeing clearly the shadow of the substance in the frog's stomach, we repeated, the next day, December 17, the use of the salt in a capsule to show deglutition in the dog. When the swallowed capsules were dissolved, the bismuth subnitrate was liberated; and in my notes I find the remark that thus a dark roundish area was produced as a stomach shadow. Then we procured a goose and made for it a box so arranged that the long neck reached up through the cover. A high cardboard collar was then attached to the top of the box in such a way that it could be closed in front when surrounding the goose's neck. Thus the goose, with the appearance of using the most stylish neckwear, presented to the fluorescent screen a very satisfactory extent of esophagus. At the meeting of the American Physiological Society in Boston, Dec. 29, 1896, the phenomena of deglutition as exhibited by the goose when swallowing capsules containing bismuth subnitrate was informally demonstrated to the members by means of the Roentgen rays. This was, I think, the first public demonstration of movements of the alimentary tract by use of the new method.

* Read at the fourteenth annual meeting of the American Roentgen Ray Society, Boston, Oct. 2, 1913.

1. Roentgen: Translation of the original paper in Science, 1896, N. S. iii, 227.
2. Dutto: Rendiconti, Reale Accademia dei Lincei, 1896, v, 129.
3. Becher: Deutsch. med. Wchnschr., 1896, xxii, 202.
4. Wegele: Deutsch. med. Wchnschr., 1896, xxii, 287.
5. Lindemann: Deutsch. med. Wchnschr., 1897, xxiii, 266.
6. Hemmeter: Boston Med. and Surg. Jour., 1896, cxxxiv, 609.
7. Later I showed that barium sulphate mixed with the food was quite as satisfactory as bismuth subnitrate. Cannon, W. B.: Am. Jour. Physiol., 1904, xii, 388.

It was not until Jan. 9, 1897, that we employed bismuth subnitrate mixed with the food (in this case a bread mush) to render the swallowed mass visible. And in order to test the rate at which substances with different consistencies move along the esophagus, we added more or less water to the mush, thus varying its physical state from a rather stiff mass to a very soft, nearly fluid mixture. Various observations of this nature were made on the goose in January, February and March, 1897. On April 3, 1897, we began using the same mush-bismuth bolus, and also meat with bismuth subnitrate adherent, in a study of swallowing in the cat, and as the mixture of bismuth subnitrate and food accumulated in the stomach, that organ was outlined by a dark shadow. On April 3, and in observations on several days thereafter, the gastric contents became visible as the cats swallowed more and more of the mixture, but no movements of the wall were seen. Finally, on April 23, 1897, a cat was fed bread soaked in warm water, and mixed with bismuth subnitrate; about an hour and a half later peristaltic waves were clearly seen passing over the organ. Following is a transcript of my notes taken at the time:

"A constriction seemed to start at *A* (*A* referred to a drawing and indicated the middle of the stomach), making a clear line there and forcing a black round mass into the region of *B* (the pyloric region). The constriction passed downward from *A* to *C* (the pylorus), but as the pylorus did not give way the contents of the stomach at *B* (the pyloric region) were forced back through the constricted ring. . . . As soon as the constriction had passed from *A* to *C*, it began again at *A* and the food was thus squirted through the narrow orifice caused by the constriction. This process continued a number of times, the food in region *D* (the cardiac region) apparently not at all involved in the movement." Forty minutes later the gastric movements were seen going on in the same manner.

The foregoing description records the first observation of peristaltic waves passing over the stomach contents, as seen by the Roentgen rays when the ingested food was mixed with a bismuth salt. Later observations refined the description—thus it was soon found that several waves are present at the same time—but the main facts, that the waves start at about the middle of the stomach, and that, because the pylorus does not open at the approach of every wave, these moving constrictions churn the food in the pyloric end—these facts were noted with this new method at first glance.

At a meeting of the American Physiological Society in Washington, May 4, 5 and 6, 1897, a preliminary report of these observations was presented by Professor Bowditch, and the summary of the report was published a month later.[8] A part of the summary was as follows:

"For this purpose (studying the esophageal and gastric movements by means of Roentgen-ray shadows) moist bread, meat, mush or viscid fluids were mixed with bismuth subnitrate. Food thus prepared is visible during the process of deglutition, and, if given in sufficient quantities, serves to outline the stomach and to render its peristaltic movements visible." Then followed an account of the results which had been obtained in observing deglutition in different animals, and also gastric peristalsis.

This was not the first published account of the use of bismuth subnitrate to make visible the alimentary tract. About two months before (April 20, 1897) Rumpel[9] published the report of rendering a pathologically dilated esophagus visible by pouring into it 300 c.c. of a 5 per cent. suspension of bismuth subnitrate. The account of work done in the Harvard laboratory which was published June 11, 1897, was, however, so far as I have been able to learn, the first record of the use of a heavy salt mixed with the food—the method now employed—to render visible by means of the Roentgen rays the movements of the alimentary tract and the effects of these movements on the contents.

At the meeting of the Société de Biologie in Paris, June 12, 1897, about five weeks after the meeting of the American Physiological Society in Washington, Roux and Balthazard[10] reported observations on gastric peristalsis in the frog, studied by means of the Roentgen rays. They also used food mixed with bismuth subnitrate. These observations were followed by others on the stomach movements of the dog and of man (July 24, 1897).[10] Roux and Balthazard[11] gave to their human subject 15 or 20 gm. of bismuth subnitrate suspended in 100 c.c. of water. They were the first investigators to use the method to examine peristalsis of the human stomach, but they succeeded in seeing only the lower part of the greater curvature.

The work on cats was continued in Harvard laboratory during the summer and fall of 1897. The results of this labor were reported at the meeting of the American Physiological Society, Dec. 28, 1897, and published in the *Proceedings*, April 1, 1898.[12] The completed work on the movements of the stomach appeared in May, 1898.[13] Later accounts of the movements of the small and large intestines and of the rate of passage of different foodstuffs through the alimentary canal, all studied by the same method, were published from the Harvard laboratory,[14] and these papers, together with the paper on deglutition, finished the non-experimental, purely observational studies.

In the work on deglutition Mr. Moser and I, in the fall of 1897, made observations on a girl aged 7 and saw clearly capsules containing bismuth subnitrate, boluses of bread and milk mush mixed with the salt, and also a suspension of the salt in water, passing down the esophagus.[15]

In 1898 and in 1899 Dr. Francis H. Williams and I made some studies on the changes in shape of the human stomach as it empties. A boy aged 10 and his sister aged 7 were the subjects of our examinations. The boy was fed a pint of bread and milk to which 30 gm. of bismuth subnitrate had been added; his sister received a smaller amount. Tracings were made on transparent paper laid over the fluorescent surface. These tracings show clearly the vertical position of the stomach now so well known, and a gradual shortening of the organ as it discharges its contents. These records were not published at once, but appeared in 1903.[16]

A year after this publication by Dr. Williams, Rieder[17] reported his thorough study of the alimentary canal in man. The method used by Rieder was that which had been used many times before. Rieder himself definitely stated in his more extended paper in 1905 that his use of bismuth subnitrate mixed with the food, as a means of rendering opaque to the Roentgen rays the contents of the alimentary canal, was not new, and he presented a

8. Science, June 11, 1897, p. 901.
9. Rumpel: München. med. Wchnschr., 1897, xliv, 420.
10. Roux and Balthazard: Compt. rend. Soc. de biol., June 18, 1897.
11. Roux and Balthazard: Compt. rend. Soc. de biol., 1897, xvii, 567, 704, 785; Arch. de physiol., 1898, xxx, 85.
12. Am. Jour. Physiol., 1898 i, p. xiii.
13. Am. Jour. Physiol., 1898, i, 359.
14. Am. Jour. Physiol., 1902, vi, 251; 1904, xii, 387.
15. Am. Jour. Physiol., 1898, i, pp. xii and 435.
16. Williams, Francis H.: Roentgen Rays in Medicine and Surgery, New York, the Macmillan Company, 1903, p. 365.
17. Rieder: Fortschr. a. d. Geb. d. Röntgenstrahlen, 1905, viii, 41.

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review of previous work in which this method employed.

In spite of Rieder's disavowal of the introduction any new principle into methods of gastro-intestinal examination, it is not uncommon nowadays to find clinical literature, especially in Germany, the use of heavy salt mixed with the food to make Roentgen-ray shadows, referred to as "Rieder's method."[18] The assertion made by those who credit Rieder with the method is that he was first to demonstrate that giving large amounts of bismuth is harmless for the human organism (Albers-Schönberg[18] and Krause and Schilling[18]). It is doubtful if bismuth subnitrate is as assuredly harmless as was assumed in the early days.[19] Be that as it may, Groedel[18] has pointed out that Rieder's use of massive doses of bismuth subnitrate (from 40 to 50 gm.) rested in fact on the long experience of internists who, following Kussmaul, had given for gastric ulcer large doses—doses which would result in as much as 60 gm. being in the digestive tract at one time. This tendency to ascribe to Rieder the shadow method of studying the alimentary canal is not, however, confined to Germany. A recent article[20] in this country on Roentgen technic begins thus:

> The fundamental principle of Roentgen-ray examinations of the stomach and intestine is the visualization of their outline by filling them with substances opaque to the ray, a principle which we owe to Rieder of Munich who, in 1904, first used bismuth subnitrate for the purpose.

As already stated, Rieder himself clearly disclaims any such credit as is thus given to him.

The evolution of the Roentgen-ray shadow method of examining the digestive tract has gone forward with such great strides in these later years—with the manufacture of powerful electric generators and durable tubes and with the application of the method to all manner of practical problems of diagnosis, such as constipation, and obstruction, and tumors, and ptosis and what not else—that the small beginnings which I have recounted here seem trivial enough. This historical review which I have tried to present may, however, serve to show that the use of Roentgen-ray shadows of gastro-intestinal contents, to determine normal and pathologic motions of the alimentary tract, has been a gradual development. The interdependence of ideas in any such development is so complex that it is quite possible that the method now employed originated in fact in the statement contained in Roentgen's first announcement, that the salts of heavy metals are as opaque to the rays as the metals themselves. The injection of blood-vessels and intestinal loops with salts showed almost at once that any hollow organ could be made, in the presence of Roentgen rays, to manifest its contours. The mixing of heavy salts with the food to render gastro-intestinal movements visible was, so far as I have been able to learn, first used in the Laboratory of Physiology in the Harvard Medical School; but the method contained, to my mind, no principle which had not been utilized before. Under these circumstances there is little warrant for any man to claim for himself or for any other the credit of inventing the method now used everywhere in Roentgen examinations of the alimentary canal.

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18. Groedel: München. med. Wchnschr., 1907, liv, 1068. Albers-Schönberg: Med. Klin., 1908, iv, 1713. Krause and Schilling: Fortschr. a. d. Geb. d. Röntgenstrahlen, 1913, xx, 465.

19. Worden, Sailer, Pancoast and Davis: Univ. Penn. Med. Bull., 1906, xix, 131, 157.

20. Carman, R. D.: The Technic of Roentgen-Ray Examination of the Gastro-Intestinal Tract, and the Interpretation of Screen and Plate Findings, THE JOURNAL A. M. A., Aug. 2, 1913, p. 321.

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a case of manic-depressive insanity, it will, therefore, end in recovery, but there are likely to be recurrences," is making a forecast that is neither reliable nor so full and detailed as desirable and, under some conditions, possible; for, on the one hand, there is possibility of error in his prediction—even assuming correctness of diagnosis—and, on the other hand, he has yet failed to offer a judgment on many important points. How rapid, how marked and disabling a deterioration may be expected in the case of dementia praecox? Is the course to be steadily progressive or, perhaps, interrupted by remissions? In the case of manic-depressive insanity, how soon is the recovery to be expected and when the recurrences? In either case, to what extent, if any, may the future course be influenced by environmental conditions?

Perhaps in the process of assimilating Kraepelin's teaching it has been but natural for us to endeavor first to grasp its more fundamental points, to seek a view of its general outline; but it would seem that we are now past the stage of this preliminary work and are far enough advanced to begin adding the "grain of salt" which must be taken with every generalization.

That the matter of prognosis deserves more intensive special study than it has hitherto received needs hardly to be stated, for no issue urges itself more prominently on the clinical psychiatrist in his daily work; but there are two items of advantage that may be gained from the systematic practice of prognosis which are perhaps not generally realized. The first of these consists in a corrective control that would become available for clinical work and judgments; under ordinary conditions, attention being almost wholly given to diagnosis, an unexpected outcome in a given case elicits but the explanation that "exceptions are not uncommon." A more specific explanation, derived from the facts in the case, would probably be sought if an individual prognosis had been rendered. The second item of advantage consists in the development of sound and crucial criticism of therapeutic procedures that would follow the prognosis. Any case in which improvement followed the use of hydrotherapy, psychanalysis, reeducation, or what not, would be of greater value were a thoroughly discussed prognosis previously rendered than when, as is usual, without hesitation or compunction, the improvement is directly attributed to the treatment.

Hitherto individual prognosis has been an art rather than a science, and one, moreover, practiced at times

FIRST ADMISSIONS FOR THE YEAR ENDING

					Repatriated		Died		Discharged		At Hospital	
				At	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
				—	—	—	34	75.6	1	2.2	10	22.2
				—	1	1.3	61	79.2	10	13.0	5	6.5
				—	—	—	8	66.6	2	16.7	2	16.7
				—	1	3.5	4	13.8	19	65.5	5	17.2
				—	—	—	—	—	1	100.0	—	—
				—	—	—	2	40.0	3	60.0	—	—
				—	—	—	—	—	5	100.0	—	—
			5	—	—	—	1	12.5	4	50.0	3	37.5
		3	—	—	—	—	23	13.6	39	23.1	99	58.6
		51	—	—	3	5.9	4	7.5	31	58.5	17	32.1
		50	1	2.0	1	2.0	3	5.9	10	19.6	35	68.6
		63	1	1.6	3	4.8	2	4.0	44	88.0	2	4.0
	2	19	—	—	1	5.3	4	6.3	44	69.9	11	17.4
	4	4	—	—	—	—	4	21.0	5	26.3	9	47.4
	—	2	—	—	—	—	—	—	4	100.0	—	—
	1	2	—	—	—	—	—	—	2	100.0	—	—
	5	10	—	—	—	—	1	10.0	5	5.0	4	40.0
	1	5	1	21.0	—	—	2	43.9	2	40.0	—	—
	—	4	—	—	—	—	—	—	4	100.0	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
	334	278	612	8	1.3	14	2.3	153	25.0	235	38.2	203	33.2

* The term preferred by the author is "paranoic conditions," which is the official term employed by the New York State Hospital Commission to designate a group of delusional conditions without marked tendency toward mental deterioration. The expression "paranoiac conditions" is here used to preserve uniformity in the style of THE JOURNAL.

TABLE 2.—AVERAGE LENGTH OF HOSPITAL RESIDENCE OF PATIENTS DEPORTED, REPATRIATED, DECEASED OR DISCHARGED INTO THE CUSTODY OF SELF, RELATIVES OR FRIENDS

Clinical Groups	Deported			Repatriated			Died			Discharged		
	Years	Months	Days	Years	Months	Days	Years	Months	Days	Years	Months	Days
Senile psychoses	—	—	—	—	—	—	1	0	2	3	4	2
General paresis	—	—	—	0	0	21	0	8	28	0	3	27
Cerebral arteriosclerosis	—	—	—	—	—	—	1	6	15	3	3	1
Alcoholic psychoses	—	—	—	1	9	19	2	5	25	0	7	14
Other toxic psychoses	—	—	—	—	—	—	—	—	—	0	8	18
Infective-exhaustive psychoses	—	—	—	—	—	—	0	0	20	0	3	6
Depressive hallucinosis	—	—	—	—	—	—	—	—	—	0	3	19
Involution melancholia	—	—	—	—	—	—	0	2	0	0	8	2
Dementia praecox	0	2	26	0	7	8	1	10	7	0	5	18
Allied to dementia praecox	—	—	—	1	5	1	—	—	—	0	9	20
Paranoiac conditions	—	—	—	2	7	18	2	4	10	0	7	27
Manic-depressive psychoses	0	2	15	0	1	27	0	7	26	0	8	8
Allied to manic-depressive psychoses	0	4	24	1	7	14	0	4	10	0	9	3
Epileptic psychoses	—	—	—	4	10	0	2	3	22	1	4	2
Psychoneuroses	—	—	—	—	—	—	—	—	—	0	3	2
Constitutional inferiorities	—	—	—	—	—	—	—	—	—	0	3	23
Imbecility with insanity	—	—	—	—	—	—	4	1	6	0	11	18
Unclassified	0	2	18	—	—	—	2	1	27	2	1	3
Not insane	—	—	—	—	—	—	—	—	—	0	1	15
All groups	0	3	1	1	7	16	1	1	22	0	8	2

TABLE 3.—CONDITION ON DISCHARGE OF ALL PATIENTS SENT OUT IN THE CUSTODY OF SELF, RELATIVES OR FRIENDS*

Clinical Groups	Total First Admissions	Recovered		Improved		Unimproved	
		No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
Senile psychoses	45	—	—	—	—	1	2.2
General paresis	77	—	—	8	10.4	2	2.6
Cerebral arteriosclerosis	12	—	—	2	16.7	—	—
Alcoholic psychoses	29	14	48.3	5	17.2	—	—
Other toxic psychoses	1	1	100.0	—	—	—	—
Infective-exhaustive psychoses	5	3	60.0	—	—	—	—
Depressive hallucinosis	5	5	100.0	—	—	—	—
Involution melancholia	8	3	37.5	1	12.5	—	—
Dementia praecox	169	—	—	32	18.9	7	4.1
Allied to dementia praecox	53	25	47.2	5	9.4	1	1.9
Paranoiac conditions	51	—	—	10	19.6	—	—
Manic-depressive psychoses	50	40	80.0	3	6.0	1	2.0
Allied to manic-depressive psychoses	63	34	54.0	8	12.7	2	5.9
Epileptic psychoses	19	2	10.5	3	16.1	—	—
Psychoneuroses	4	2	50.0	2	50.0	—	—
Constitutional inferiorities	2	—	—	2	100.0	—	—
Imbecility with insanity	10	1	10.0	4	40.0	—	—
Unclassified	5	—	—	—	—	2	40.0
All groups (including four not insane)	612	130	21.2	85	13.7	16	2.6

*Four patients on first admission were discharged as not insane.

quite independently of Kraepelin's contributions. It may be hoped, however, that careful records of data of experience will aid in building up also a science of prognosis, when its practice will be more accurate and more general. But for the present, if the procedure is to be in a natural way from the known to the unknown, it would seem wisest not to attempt a discussion of the rather meager data of individual prognosis—a discussion which would be perforce largely conjectural—but rather to work toward improving our methods of recording clinical experiences until a system of statistics is developed which will faithfully exhibit both the strength and the weakness of present-day general prognosis.

per thousand or ten thousand of the admissions, etc. All these methods are, to say the least, unreliable if not absolutely misleading. The total number of recoveries includes those occurring in the whole population under treatment, representing (in large part) the accumulation of years in the form of various psychoses from which no recovery can possibly be expected, such as epilepties, seniles, imbeciles and the terminal stages at various other conditions. The recoveries from the total population have little if any real relation to the number admitted during the year. It would be highly desirable if from a given thousand or ten thousand consecutive admissions accurate and definite reports could be obtained showing how many are discharged improved or recovered, how many die, and what percentage becomes permanently resident

TABLE 4.—SUBSEQUENT COURSE OF PATIENTS DISCHARGED INTO THE CUSTODY OF SELF, RELATIVES OR FRIENDS*

Clinical Groups	Total Number Discharged	Readmitted and Now in Hospital		Readmitted and Eventually Discharged		Not Known to Have Been Readmitted	
		No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
Senile psychoses	1	—	—	—	—	1	100.0
General paresis	10	—	—	—	—	10	100.0
Cerebral arteriosclerosis	2	2	100.0	—	—	—	—
Alcoholic psychoses	19	2	10.5	2	10.5	15	79.0
Other toxic psychoses	1	—	—	—	—	1	100.0
Infective-exhaustive psychoses	3	—	—	—	—	3	100.0
Depressive hallucinosis	5	—	—	2	40.0	3	60.0
Involution melancholia	4	—	—	1	25.0	3	75.0
Dementia præcox	39	10	25.6	1	2.6	28	71.8
Allied to manic-depressive psychoses†	31	2	6.5	3	9.7	26	83.8
Paranoiac conditions	10	2	20.0	1	10.0	7	70.0
Manic-depressive psychoses	44	1	2.3	7	15.9	36	81.8
Allied to manic-depressive psychoses	44	4	9.1	2	4.5	37	84.1
Epileptic psychoses	5	—	—	—	—	5	100.0
Psychoneuroses	4	—	—	—	—	4	100.0
Constitutional inferiorities	2	—	—	1	50.0	1	50.0
Imbecility with insanity	5	—	—	—	—	5	100.0
Unclassified	2	—	—	—	—	2	100.0
All groups (including four not insane)	235	22	9.4	20	8.5	191	81.7

* Four patients were discharged as not insane.
† One patient in this group died after readmission. Percentage of this group dying 2.3; of all groups 0.4.

TABLE 5.—PRINCIPAL CAUSES OF DEATH OF FIRST ADMISSIONS

Causes of death	Senile Psychoses	General Paresis	Cerebral Arteriosclerosis	Alcoholic Psychoses	Involution Melancholia	Dementia Præcox	Paranoiac Conditions	Manic-Depressive Psych.	Epileptic Psychoses	Imbecility with Insanity	Other Groups	All Groups
General paresis	—	59	—	—	—	—	—	—	—	—	—	59
Bronchopneumonia	15	—	4	—	—	2	—	1	—	—	2	24
Pulmonary tuberculosis	—	—	—	—	—	14	2	—	2	—	1	19
Acute enterocolitis	5	—	1	—	—	—	—	—	—	1	3	10
Lobar pneumonia	1	—	—	—	—	1	—	1	—	—	2	5
Chronic endocarditis	3	—	—	—	—	—	1	—	—	—	1	5
Chronic nephritis	4	—	—	—	—	—	—	—	—	—	1	5
Arteriosclerosis	3	—	1	—	—	—	—	—	—	—	—	4
Cerebral hemorrhage	1	—	2	1	—	—	—	—	—	—	—	4
Acute peritonitis	—	1	—	1	—	—	—	—	—	—	—	2
Acute cholecystitis	1	—	—	—	—	—	—	—	—	—	1	2
Intestinal obstruction	—	1	—	—	—	1	—	—	—	—	—	2
Septicemia	—	—	—	—	—	1	—	—	—	—	1	2
Chronic myocarditis	—	—	—	1	—	1	—	—	—	—	—	2
Status epilepticus	—	—	—	—	—	—	—	—	2	—	—	2
Inanition and exhaustion	—	—	—	—	1	1	—	—	—	—	—	2
Influenza	—	—	—	—	—	1	—	—	—	—	—	1
Purpura hemorrhagica	—	—	—	1	—	—	—	—	—	—	—	1
Suicide	—	—	—	—	—	1	—	—	—	—	—	1
Cancer of the breast	1	—	—	—	—	—	—	—	—	—	—	1

At the last annual meeting of the American Medico-Psychological Association a paper entitled "Statistical Studies of the Insane" was read by Dr. James V. May, the medical member of the New York State Hospital Commission. Among other criticisms of state hospital statistics the paper contains the following:

> The recovery-rate has been estimated as based on the number admitted for the year, the average daily population, the whole number treated, the number discharged and the rate

in our chronic wards. Only such statistics can accurately determine the real recovery-rate or give us any definite idea as to the ultimate disposition of the patients admitted.

Following the suggestion contained in the preceding quotation an investigation has been made of the outcome, as far as known at present (Sept. 30, 1913), of all cases of first admission to the Kings Park State Hospital for the year ending Sept. 30, 1908. The data resulting from this investigation are presented in statistical form in Tables 1 to 5.

Some items in the tables require explanation.

Under the heading "Deported" are included patients returned to their native countries by federal authorities under the federal law pertaining to the exclusion of insane or defective aliens.

Under the heading "Repatriated" are included immigrants not deportable under the federal law but returned to their native countries or states at their own or their friends' request, for the most part through the agency of the state bureau of deportation. The further course of cases following deportation or repatriation is generally unknown.

Under the heading "Discharged" are included patients who have been discharged following escape from the hospital or into the custody of self, relatives or friends, but not patients who have been deported, repatriated or transferred to other institutions for the insane in this state.

Under the heading "At Hospital" are included patients who from the time of first admission have either continuously resided at this hospital, or in part at this hospital and in part at some other hospital in this state to which they may have been transferred.

If, following transfer to another hospital, a patient has been deported, repatriated, has died or has been discharged into the custody of self, relatives or friends, this has been so entered in the table, just as has been done in the event of such termination of treatment during residence at this hospital.

In Table 2 the average length of hospital residence includes residence both at this hospital and at other hospitals to which the patient may have been transferred, but in each case only the residence following first admission is taken into account.

In Table 4, under the heading "Not Known to Have Been Readmitted," some cases have perforce been entered for want of better information. Although the statistician of the State Hospital Commission has kindly rendered assistance in the collection of these data by going over the records kept at its office at Albany, there is no doubt that some instances of readmission to institutions in this state have been overlooked owing to the patients being recommitted under changed names or for other reasons. Naturally information concerning readmission to institutions in other states or countries is still more imperfect. It will be judged, then, that the percentages of readmissions during the period under consideration, as shown in the table, must be to some unknown but probably considerable extent understated.

In all of the tables the diagnoses given are not necessarily those originally made, but are those finally decided on, possibly following revision at any time in the course of observation or treatment or at the time of discharge or following death and post-mortem examination. In this connection attention is called particularly to the groups allied to dementia praecox and allied to manic-depressive insanity. In these groups are placed patients who present atypical features of any kind, among these being unexpected recovery or unexpected deterioration or chronicity. It need hardly be added that these groups ought to be considered not independently but in connection with the "straight" groups of dementia praecox and manic-depressive insanity.

SUMMARY

The main facts exhibited in the tables may be summarized as follows:

1. At the end of five years, one-fourth of all first admissions have died, a little over one-third have been discharged, and about one-third are still in the state institutions. These results are, however, very unequally distributed among the various clinical groups, as would indeed be expected.

2. Taking into consideration only the more important clincal groups, it will be seen that death is the typical termination for patients with senile psychoses, general paresis and cerebral arteriosclerosis; discharge into the custody of self, relatives or friends for alcoholic psychoses, psychoses allied to dementia praecox and manic-depressive and allied psychoses and continued residence at the hospital for dementia praecox and paranoiac conditions.

3. Aside from the patients that survive and remain as prolonged institution residents, the termination of treatment in the average case has been before the expiration of the first year of hospital residence, namely, at the end of ten months, eleven days.

4. Nearly one-half of the patients in the group allied to dementia praecox have been discharged as recovered, many of those being placed in that group instead of the "straight" group of dementia praecox for no other reason than that of their eventual recovery; moreover, a percentage of these patients higher than the average find their place at the end of five years under the heading "Not Known to Have Been Readmitted" (Table 4).

5. Four per cent. of the cases in the manic-depressive group and over 17 per cent of those in the group allied to manic-depressive psychoses are still in the institutions at the end of five years.

6. Of all the patients discharged into the custody of self, relatives or friends nearly 20 per cent., and possibly more, have been readmitted within five years.

7. The distribution of the causes of death is abnormal in comparison with general mortality statistics; of the 153 deaths no less than 112, or 73.2 per cent., are due to but four principal causes—general paresis, bronchopneumonia, pulmonary tuberculosis and acute enterocolitis.

THE INTRANASAL TREATMENT OF DYSMENORRHEA

WITH A REPORT OF NINETY-THREE CASES *

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In 1897 Fliess[1] first called attention to the hitherto unknown and remarkable results obtained by treatment of the nose for the relief of dysmenorrhea and labor pains. In the same brochure he presented a series of facts tending to prove the existence of a periodicity in human life stated to be twenty-eight days in the female and twenty-three days in the male.

The relationship between the nose and uterine organs was limited, according to Fliess, to certain points in the nasal mucosa which he termed the "genital spots." These are the tuberculum septi and the anterior portion of the inferior turbinate in either side of the nose. At menstruation these swell, bleed easily, are sensitive to

* Owing to lack of space this article is abbreviated in THE JOURNAL by the omission of ninety-three case-reports. The complete article appears in the author's reprints, a copy of which will be sent by him on request.

* Read before the meeting of the American Academy of Ophthalmology and Otolaryngology at Chattanooga, Tenn., Oct. 26, 1913.

1. Fliess: The Relation of the Nose and Female Genitalia, Leipsic, Vienna 1897.

the touch of a probe and are slightly cyanotic. During labor Fliess noted a swelling of the erectile tissue of the nose at each uterine contraction.

His first experiments were with cocain. During an attack of dysmenorrhea applications of a 20 per cent. solution of cocain were applied to the genital spots; the pains in the back and abdomen ceased after from five to eight minutes and did not return until the effect of the cocain wore off. If only turbinates were touched the headache ceased but not the abdominal pain. If only one side was treated, the pain on the opposite side of the abdomen was relieved. I[2] have since obtained similar results with epinephrin, and Fliess and Kuttner[3] have obtained similar results.

Fliess then endeavored to secure permanent effects and applications of trichloracetic acid, the galvanocautery and bipolar electricity were made to the genital spots with entire success as the succeeding menstruations were painless. His best and most lasting results were obtained by the abolition of the sensitive spots by means of bipolar electrolysins of from 5 to 8 milliamperes.

Fliess naturally presented his own theories as to the explanation of this remarkable relationship, and these have been combated by many subsequent writers, the most recent of whom, Seifert[4] concludes as follows:

1. There are many indications pointing to a direct relation between the nose and the sexual organs; the nerve path is unknown.

2. General circulatory and mechanical conditions have a greater or lesser modifying influence on the nose as a result of sexual conditions and functions.

3. Many pathologic conditions of menstruation, etc., coexist with a genuine nasal reflex neurosis or nasal hypertrophy with its results.

4. Uterine influence through nasal conditions may be largely explained by suggestion, by cocain euphoria, greater in certain individuals than in others, by relief of a nasal reflex neurosis, and through the restoration of the general health as a result of restored nasal respiration and relief of nasal congestion.

It must be added that Seifert's experience with the treatment of dysmenorrhea is so slight and inconsequential that his conclusions and theories lack the weight that a greater experience would give. The subject has aroused intense interest on the part of gynecologists as well as rhinologists, as may be noted by the fact that the article referred to by Seifert[4] contains references to 296 articles written on the relationship between the nose and the sexual organs.

Although the nasal treatment for dysmenorrhea had been followed by me in some desultory cases with more or less success, it was not until the fall of 1910, three years ago, that a careful and systematic study of each case so treated was begun. In conjunction with Dr. Joseph Brettauer, of this city, and other noted gynecologists, the absence of uterine disease as a causal factor was ascertained. In some instances all the well-known methods of surgical intervention, dilatation, curettage, etc., had been unsuccessful. Concise histories were taken as to the conditions existing whether premenstrual, during menstruation or postmenstrual; by far the greater number of patients having premenstrual headaches and nausea from one to two weeks before the period to be followed by abdominal pains during the first two days often of so severe a nature as to compel them to go to bed, losing at least two days each month. Some of them had a fortnight of reasonable comfort, when their sufferings began again.

The date of last menstruation and probable date of the next was ascertained and the treatment in the majority of instances was given between these two. The nasal examination revealed in a few instances marked stenosis from deflected septa, hypertrophy of middle turbinates, etc., and enchondroses of the septum. All of these patients recovered so completely and permanently as to permit a favorable prognosis in each instance.

In the greater number of cases, however, there was no stenosis whatsoever, but there was noted a decided tumefaction and engorgement about these "genital spots," and in these the likelihood of benefit to be obtained was believed to be apparent.

In some of the cases the pains existed only at the time of menstruation. These patients received local applications of cocain to the sensitive spots only during the first or second day of menstruation.

The relief occasioned then was often truly wonderful, and the bald recital of pain, treatment and relief tells so little. When we recall the extreme pallor of one of these sufferers as she slowly dragged her way to the office for treatment, her firmly compressed lips and utter weariness, and then within a few minutes after a local application to her nose how her color came back, her breathing was free and she went about her duties instead of to bed as usual, we feel that we have earned her gratitude.

We found that this treatment had to be repeated each month and therefore ceased the cocain experimentation and used the galvanocautery or the trichloracetic acid. The results obtained by the latter were so permanent, and the treatment was so free from the danger of forming synechiae, that in the latter cases in this series all patients were treated with the trichloracetic acid. A mild solution of cocain was applied just before the use of the acid. The slough that forms disappears in about five days, and another application may be made; four applications were made between periods. The patient was then requested to report the results of her next menstruation. If entirely favorable two more reports were requested, and if these remained as favorable nothing further was done.

In those cases in which relief was slight or the results not at all favorable, four more applications were made between menstruations, and if no benefit was obtained the result was marked "no benefit."

While reports of these cases are given later, the histories which follow are illustrative:

CASE 2.—A. K., aged 25, single; Oct. 5, 1910. Menstruation was always painful; on the first two days the patient was compelled to go to bed and take full doses of codein. Two large enchondroses of the septum were removed, and the galvanocautery was applied to sensitive spots. Three years later the patient reports that she has never had menstrual pain since.

CASE 3.—C. S., aged 24, single; Oct. 12, 1910. There were severe headache and nausea one week before each menstruation, and severe bearing-down pains the first two days with nausea and headache. The patient was incapacitated from work and compelled to go to bed at least two days each month. There was enchondrosis of septum, and both inferior turbinates were swollen. Operation and subsequent treatment cured this patient.

CASE 13.—M. H., aged 28, married eight years; no children; October, 1911. The patient had excruciating pains immediately before and until menstruation began, and had been operated on four times without obtaining relief. There was

2. Mayer: Centralbl. f. Laryngol., 1902, p. 243.
3. Fliess and Kuttner: Centralbl. f. Gynäk., 1908, p. 981.
4. Seifert: Ztschr. f. Laryngol., Rhinol. u. l. Grenzgeb., 1912, v, 431.

deflection of the cartilaginous and bony nasal septum. Treatment was given by resection and the galvanocautery. The patient reported six months later that she had menstruated regularly and painlessly. Six months later she reported herself four months pregnant and subsequently brought her baby, a fine healthy child, to my office.

CASE 29.—F. G., aged 31, single; January, 1911. For the past two years severe menstrual pains, on the first day only, incapacitated the patient. She was unwell at the time, and cocain applied stopped her pain. Three months later pain recurred. Cocain and trichloracetic acid were applied, and there was no recurrence of pain.

CASE 74.—F. L., aged 41, married; November, 1912. The patient had severe headaches four days before each menstruation with nausea, and relief was obtained only by the hypodermic injection of morphin. Eight applications of trichloracetic acid to sensitive spots were made between menstruations. The patient reported complete cessation of headaches since the last treatment.

The case-reports which follow form in part the basis of two articles by Brettauer, in the second[5] of which he says that after communicating with all patients treated within the last three years, he finds that over one-half were afforded immediate relief, permanent relief in over one-third, so that doubt as to the value of the treatment is impossible. The patients were all young women, married and single, for whom all the recognized means for the relief of dysmenorrhea had been previously employed and whose pelvic organs presented no organic lesions. One group stands out prominently; those characterized by premenstrual headache, nausea and colic at onset of flow. This symptom-complex was completely relieved. Brettauer considers this treatment of great value and one which should be resorted to in all cases of dysmenorrhea in which pelvic disease is absent.

In all of the ninety-three cases, the greatest care was taken to eliminate the possibility of suggestion, and no promises were ever made. On the contrary, it was briefly explained that some had been benefited and it was hoped that they also might obtain relief; a number of the patients were treated in the dispensary—a place where none could be accused of extended conversation or statements. Nor can any weight be given to the theory of cocain euphoria thus blunting the patient's judgment, for by far the greater number received but little cocain and none at all at the time when their sufferings were due.

That a measure of relief is obtainable by the relief of nasal congestion is very apparent in that every one with pathologic conditions in the nose was permanently cured after their removal, but the manner in which this is occasioned is still an open question.

Of the ninety-three patients whose histories are here briefly presented no report was received from twelve, leaving a total of eighty-one cases reported on. Of these no relief was obtained in nineteen, fourteen were improved and forty-eight were cured—a cure of 60 per cent. of the cases treated with benefit to a total of 75 per cent. Three were treated because of amenorrhea lasting for from three to twelve months, and in each the flow became regular. Four became pregnant, two for the first time. One-half of the number were married. These results are given from the reports made by the patients after treatment.

CONCLUSIONS

1. Permanent relief is obtainable by intranasal treatment of from 50 to 75 per cent of the cases.

2. Trichloracetic acid applied to the genital spots four times at intervals between menstrual periods is usually sufficient to obtain lasting results.

3. It affords an additional field of usefulness to our therapeutics.

These patients were from every walk in life. Only the bare facts of the cure of a large number of these patients are given; but we should bear in mind that all of these women suffered inordinately, for most women accept some pain at menstruation as a matter of course, and it is only after the suffering becomes unbearable that the physician is consulted. Therefore their relief without drugs, operation and uterine treatment by a few applications to the nose adds materially to their comfort and the joy of living.

40 East Forty-First Street.

5. Brettauer, Joseph: Further Report of Cases of Dysmenorrhea Relieved by Nasal Treatment, Surg., Gynec. and Obst., 1913, xvii, 381.

PELLAGRA

A SUMMARY OF THE FIRST PROGRESS REPORT OF THE THOMPSON-McFADDEN PELLAGRA COMMISSION *

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Captain Medical Corps, U. S. Army
P. E. GARRISON, M.D.
Passed Assistant Surgeon, U. S. Navy
AND
W. J. MacNEAL, M.D.
Assistant Director of Laboratories, New York Post-Graduate Medical School
NEW YORK

Through the instrumentality of Dr. George N. Miller, at that time president of the New York Post-Graduate Medical School, funds were donated by Col. Robert M. Thompson of New York City and Mr. J. H. McFadden of Philadelphia to support a research expedition for the investigation of pellagra in the United States. It was decided that if possible a commission of three would be formed, one member to be designated by the Surgeon-General of the Army, one by the Surgeon-General of the Navy and one by the authorities of the New York Post-Graduate Medical School. Dr. Jonathan Wright, director of laboratories at the medical school, was requested by the school authorities to act in an advisory capacity. The commission was constituted as follows: Captain J. F. Siler, Medical Corps, U. S. Army, representing the Medical Corps of the U. S. Army; Passed-Assistant Surgeon P. E. Garrison, U. S. Navy, representing the Medical Corps of the U. S. Navy, and Dr. W. J. MacNeal, Professor of Bacteriology and Pathology and Assistant Director of Laboratories, New York Post-Graduate Medical School, representing the New York Post-Graduate Medical School.

It was decided that the investigation should be conducted along two lines: first, an epidemiologic study of pellagra in an endemic area of the South; and, second, biologic, pathologic and chemical studies in New York City and elsewhere. The epidemiologic studies were undertaken by Passed Assistant Surgeon P. E. Garrison of the U. S. Navy and J. F. Siler, Captain Medical Corps, U. S. Army.

A field headquarters was established in the South early in June, 1912, and the field studies were continued until Oct. 15, 1912. The Bureau of Entomology of the U. S. Department of Agriculture, early in the spring of 1912,

* From the Division of Tropical Medicine, Department of the Laboratories, New York Post-Graduate Medical School and Hospital. Read at the Pellagra Meeting at Spartanburg, S. C., Sept. 3, 1913.

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detailed Mr. A. H. Jennings and Mr. W. V. King to investigate the possible etiologic relationship between insects and pellagra. These entomologists were in South Carolina when the field headquarters of the commission was established, and through the courtesy of Dr. L. O. Howard, Chief of the Bureau of Entomology, it was arranged that these investigators and this commission should undertake cooperative work in the same territory.

Biologic, pathologic and chemical studies were undertaken in the laboratories of bacteriology, pathology and pathologic chemistry of the New York Post-Graduate Medical School under the supervision of Dr. Jonathan Wright, Director of Laboratories, and Dr. W. J. MacNeal, a member of the commission. The researches along these lines were carried out by Dr. W. J. MacNeal, Dr. O. S. Hillman, Dr. R. M. Taylor, Dr. V. C. Myers and Dr. M. S. Fine. In order to obtain material for these investigations, selected patients were sent to New York from the endemic area, pathologic material was collected in the field, and other material was supplied to the commission through the courtesy of Dr. J. W. Babcock of Columbia, S. C. Studies of the pathologic material are being undertaken by Dr. H. Douglas Singer of the Illinois State Psychopathic Institute.

Several detailed papers constituting a preliminary or progress report have been published during the past year. It is the purpose of this present paper to summarize briefly the observations recorded in these separate reports, to discuss their bearing on the various theories concerning the causation of pellagra and to express in a tentative fashion some of our opinions which are based thereon.

THE FIELD WORK IN SPARTANBURG, S. C.

The epidemiologic studies have led to the accumulation of a very large mass of data concerning the occurrence and distribution of pellagra in Spartanburg County, S. C., in regard to the cases themselves and their conditions in life. Some of this material has been presented in a preliminary fashion in a paper by Siler and Garrison.[1] They have summarized the matter as follows:

1. Pellagra shows a striking inequality of distribution in ten townships within the county, the township rate of prevalence per ten thousand of population varying from 0 to 71. The city of Spartanburg, with a population of 17,517, gave a rate of 49 per ten thousand against 34 per ten thousand for the remainder of the country.

2. Density of population, while showing a tendency to conform to the relative prevalence of the disease, does not alone offer an explanation of the geographic inequalities of its distribution within the county.

3. The cotton-mill village population gives a rate of prevalence of 104 per ten thousand against 19 per ten thousand for the remainder of the county and against 16 per ten thousand for the rural sections alone.

4. The variations in the rates of prevalence in the ten townships are in a measure proportional to the presence or absence of a large mill-village population. Excluding the mill-village population, there is still a marked discrepancy between the townships, the rate of prevalence in the rural population ranging from 0 to 29 cases per ten thousand of population. The excessive prevalence among the farming classes is found in the townships which have a relatively large mill-village population.

5. The white population of the county gives a prevalence of 45 cases per ten thousand; the negro population a prevalence of 9.5 per ten thousand. Excluding the mill-village population which is practically all white, the remaining white population still gives a rate of prevalence (25.2 per ten thousand) over two and one-half times that among the negroes.

6. The rate of prevalence per ten thousand for males in the county is 17; for females, 50.5. White males give a rate of 22.95 per ten thousand; white females, 87.5 per ten thousand; negro males, 3.9 per ten thousand; negro females, 14.9 per ten thousand.

7. The rate of prevalence among children under 10 years of age and among adults aged 45 years and older, is practically equal in the two sexes.

8. The rate of prevalence drops among males between the ages of 19 and 45 years, whereas for females there is a remarkable excess of prevalence between these ages.

9. In both males and females there is a striking fall in prevalence between the ages of 10 and 20 years.

10. The most significant fact with regard to occupation is the excessive prevalence of pellagra among women employed in housework.

11. The excessive prevalence of pellagra in the mill-village population is found largely among women and children at home during the day. Among actual mill-workers the rate of prevalence in the two sexes appears to be about equal.

12. One-half of the cases occurred singly in one family; about one-fourth occurred two in one family; the remaining fourth occurred in groups of three, four or five in one family. The question of the possible relative importance of family relationship and household association is still under investigation.

13. Among cases occurring singly in families, the proportion of children of both sexes under 10 years of age is low and that of adult females excessively high. Among cases occurring two or more in one family the proportion of young children is relatively high, especially among males.

14. While apparently authentic sporadic cases of pellagra within the county can be traced back to as early as 1894, the disease does not appear to have occurred in any great number of cases in any year until 1908. Since 1908 the incidence rate appears to have rapidly increased each year to 1911. The number of new cases developing in 1911 appears to have been slightly greater than in 1912.

15. There was no evidence pointing to any spring and fall recrudescence of the disease in the population, so frequently referred to in the literature of pellagra. There is no particularly marked tendency for the seasonal recurrence to appear in an individual during the same month, year after year.

16. Influence of Climate: Climatic conditions appear to influence the development of symptoms of the disease. If during the spring months precipitation is high, temperature low and number of rainy days excessive, the appearance of acute symptoms, more particularly those involving the skin, is delayed.

17. Symptomatology: It would appear that three or four years ago a large proportion of the cases observed in the county presented intestinal and nervous symptoms of great severity. In 1912, in many instances, symptoms were quite mild and sometimes were confined almost exclusively to the cutaneous system, the disease appearing to be of a less virulent type in 1912 than in previous years.

18. Economic Status: In the majority of cases (85 per cent.) economic conditions are poor and the disease is most prevalent among people of insufficient means.

19. Predisposing Diseases: General health conditions in childhood do not appear to warrant consideration as etiologic factors when the disease develops in adult life. In a number of cases the development of pellagrous symptoms in children was preceded by one of the acute exanthematous diseases of childhood. About one-fourth of the cases gave a history of a preceding chronic disease in adult life. In more than one-half of the cases (62 per cent.) the history was that of good health. Among adult females, those most affected were married women (86 per cent.) and 86 per cent. of the married women had borne children. A history of illness immediately preceding the development of pellagra was elicited in 59 per cent. of the cases.

1. Siler and Garrison: An Intensive Study of the Epidemiology of Pellagra, Report of Progress, Am. Jour. Med. Sc., July, 1913, p. 42, and August, 1913, p. 238.

20. Hygiene and Sanitation of Houses and Premises: The most insanitary condition found in the county is the absence of properly constructed privies. Outside of a part of the city of Spartanburg, which is supplied by a water-carriage sewage system, there is no effective provision in the county for the proper disposal of human excreta. A second striking insanitary condition is the almost complete absence of effective screening of dwellings. These two conditions present a situation highly favorable to the transmission of disease organisms eliminated in the excreta, both by direct contamination of food and person and by insects. This situation is naturally aggravated in the mill-villages and small towns by the greater congestion of houses. The absence of effective screening for dwellings gives rise to conditions conducive to the possible transfer of diseases transmitted by biting insects.

21. Dietary: Observations on the habitual use of the more common foodstuffs failed to discover any points of difference between pellagrins and non-pellagrins in the county, or any facts which would seem to explain the strikingly greater prevalence of pellagra among certain classes of the population.

The most striking defect in the general dietary of the working classes, appears to be the limited use of fresh meats, the animal protein being supplied largely in the form of cured meats, of which salt pork (especially bacon) is the most important.

Unhygienic preparation of food appears to be a probable important factor in the general health of the population.

Investigation of the kind, quantity and quality of corn and corn products used in the county, failed to bring to light any epidemiologic evidence pointing to the agency of corn as an etiologic factor in the disease. The presence of two cases in our series giving a definite history of no corn consumption within two years prior to the onset of symptoms, together with several other cases in which corn products were eaten, if at all, only in small quantity and at extremely rare intervals, would seem to argue strongly against any hypothesis that corn products alone are the causative agent of the disease.

In intimate collaboration with the field party of the commission, Mr. A. H. Jennings and Mr. W. V. King, members of the staff of the Bureau of Entomology, U. S. Department of Agriculture, have pursued thorough studies of the insects which seemed worthy of attention as possible carriers of pellagra in Spartanburg County. The results obtained by these investigators have been presented in two papers.[2]

The following is quoted from their conclusions:

Ticks, lice, bed-bugs, cockroaches, horse-flies, fleas, mosquitoes, buffalo gnats *(Simulium)*, house-flies and stable-flies *(Stomoxys)* were under consideration. Of these, horse-flies have nothing and cockroaches little to support them.

Ticks and fleas are excluded on account of their scarcity and the nature of their biting habits. In view of these characteristics, it is doubtful if even the existence of an animal reservoir of infection would bring the groups into prominence.

Lice and bedbugs do not account for the sex or age incidence or the rural nature of the disease; the scarcity of the former species is an additional reason for its exclusion.

The rarity of mosquitoes here and the lack of coincidence between their distribution and that of pellagra for the state in general, together with the night-biting habits of the local species, which fail to account for the sex incidence, seem sufficient cause for their elimination.

House-flies *(Musca domestica)* should be active if the malady is an intestinal infection in which the germ is passed with the feces, with contaminated food acting as the vehicle of infection.

The buffalo gnats *(Simulium)* should be eliminated, principally on account of their biting habits and lack of intimate association with man, also possibly by their comparatively moderate abundance (in our territory). We find that in Spartanburg County they are hardly known as a pest of man and when they do attack him, the nuisance is local and largely confined to field workers. Had Sambon's theory not been advanced, these flies could hardly have attracted suspicion of any connection with pellagra in this country.

The stable-fly *(Stomoxys calcitrans)* displays certain salient characteristics which seem to qualify it for the rôle of a transmitter of pellagra.

The range of this one species covers and exceeds that of pellagra; its seasonal activity, likewise, is coincident with that of the disease and, although its period of greatest abundance is somewhat later than the maximum intensity of pellagra, its appearance in spring precedes that of most of the spring recurrences and new cases, at which time it is already abundant; it is an abundant species, its abundance being most manifest in rural districts, thus corresponding with the rural nature of pellagra, its numbers amply fulfilling our conception of those necessary to effective disease transmission; it bites by day only, thereby offering an explanation of the phenomenon of sex incidence and the related one of age distribution; it is intimately associated with man and habitually infests his vicinity and enters his dwellings; it bites man frequently and persistently; its longevity seems sufficient for the development of a hypothetic causative organism; it is readily and frequently carried long distances and might thus account for the occurrence of sporadic cases of the disease.

THE LABORATORY WORK IN NEW YORK

The material for the studies made in New York was obtained by sending patients suffering from pellagra from the field headquarters in South Carolina to the Post-Graduate Hospital in New York City. Altogether fifteen patients were sent to New York during the summer. All these patients showed a typical eruption on the skin and there was considerable variation among them as to the severity of the disease, stage of eruption, general physical vigor and financial status. The detailed observations on these patients have not yet been published. One of them remained under observation in the hospital only two days and was then removed to the house of relatives near New York. The other fourteen patients remained under observation until the acute manifestations of pellagra had disappeared and the physical condition of the patients warranted their return home. No specific medication was employed during the attack of pellagra in any of the cases but arsenic was given to two of the patients, after the acute manifestations of the disease had passed, in the form of sodium cacodylate in one case and as Fowler's solution in the other. The detailed observations on these cases and their subsequent history we hope to present in a later report.

The material for laboratory examination was largely obtained from these patients, but in addition samples of blood-serum, blood-films and some other material were obtained from patients in South Carolina and sent to the laboratory in New York.

The histology of the blood was studied by Dr. O. S. Hillman, Lecturer in Pathology at the New York Post-Graduate Medical School, and his report has already appeared.[3] He found a variable degree of chloranemia—not constituting, however, a prominent feature of the disease—and not infrequently a leukocytosis, apparently inexplicable in the light of our present knowledge of the disease. Lymphocytosis was present in the great majority of cases and may be correlated with the general cachexia of the patients and with the presence of digestive disorders. No characteristic or constant variations

2. Jennings and King: THE JOURNAL A. M. A., Jan. 25, 1913, p. 271; Am. Jour. Med. Sc., September, 1913, p. 411.

3. Hillman: Some Hematologic Findings in Pellagra, Am. Jour. Med. Sc., April, 1913, p. 507.

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were detected in the large mononuclear leukocytes or in the eosinophil cells.

The chemical studies on the patients in New York were carried out by Prof. V. C. Myers and Dr. M. S. Fine and have been reported in detail.[4] The study includes analyses of the gastric juice, quantitative estimation of the food intake and quantitative analysis of the urine and feces of the patients during certain periods of their stay in the hospital. The results of this work have been summarized as follows:

The ability of individuals suffering from pellagra to utilize the various foodstuffs as indicated by our series of fifteen experiments appears to be only slightly if at all below the normal.

The elimination of mineral and nitrogenous constituents in the urine is such as would be anticipated under the dietary and physical conditions of the individuals. A lowered physiologic efficiency is indicated by the low creatinin coefficients and the elimination of small amounts of creatin in the urine. The presence of a few hyaline casts in about 45 per cent. of the cases points to some possible irritation of the kidney.

Anacidity is a condition common in pellagra, found in eight of our fourteen cases. It is generally associated with an entire absence of pepsin, or with pepsin in only very minute quantities.

Individuals suffering from pellagra show a marked indicanuria, which is excessive in the cases with gastric inefficiency. Though the ethereal sulphate hardly parallels the indoxyl-potassium sulphate, the quantities eliminated are much higher where anacidity exists and they furthermore hold a higher ratio to the inorganic sulphates.

The feces contain decidedly abnormal amounts of indol and skatol, especially the latter.

The presence of excessive amounts of indican in the urine, associated with a high elimination of ethereal sulphates, when considered in connection with the abnormal amounts of indol and skatol in the feces, points to some unusual bacterial conditions in the intestine. From the data at hand this putrefaction would appear to take place rather high up in the intestine.

The bacteriologic studies[5] were directed more particularly to the possible relation of intestinal bacteria to pellagra and a large number of agglutination tests were made with various bacterial strains. One of these seemed to react with the blood of pellagrins more frequently than with blood of other individuals, but we have not succeeded in establishing a specific relation of this organism to the disease. The quantitative changes in the bacterial flora of the feces are such as might be expected in irritation of the digestive tract. Numerous attempts to produce the disease in monkeys (*Macacus rhesus*) by the injection of defibrinated blood were without definite result.

RELATION OF THE REPORTED OBSERVATIONS TO THE VARIOUS THEORIES CONCERNING THE ETIOLOGY OF PELLAGRA

The theory that pellagra is due to the ingestion of maize or maize products, either good or spoiled, seems to us wholly inadequate to explain the distribution of the disease actually observed in Spartanburg County, S. C., in 1912, not only because typical severe cases of the disease were observed in those who had abstained from the ingestion of corn for a considerable time, but also because there could be discovered no essential difference in respect to the consumption of corn between those suffering from pellagra and those free from the disease.

The conception that pellagra is an infectious disease in some way transmissible from person to person seems to us to be strongly supported by many of the field observations. The higher incidence of pellagra in the more populous districts and the indications of its occurrence in definite foci are in accord with this idea, and, furthermore, the definite tendency to self-limitation of the attack in the absence of specific therapy and during the continuance of a corn diet bears a very suggestive resemblance to the course of an infectious disease. All the members of the commission and every one of the investigators associated with us in the work have come to regard pellagra as an infection in all probability and many of us would state that as our opinion without any reservation whatever.

Concerning the particular mode of transmission of the disease, the observed evidence does not appear to us to be at all conclusive. The theory of Sambon that pellagra is transmitted by a blood-sucking fly of the genus *Simulium* is based on epidemiologic evidence and apparently to a large degree on the conception that pellagra is a disease of field workers and those who go frequently into the fields. In Spartanburg County pellagra appears to be more especially prevalent in the factory villages and has a higher incidence in the City of Spartanburg itself (population 17,517) than in the less thickly populated remainder of the county. Furthermore, the adult males (the class of the population from which the field workers are largely drawn) show a striking relative freedom from the disease in our statistics. Indeed, one may go farther and say that pellagra in Spartanburg County, although it shows a tendency to attack all classes of the population, is more especially a disease of the women and children in the villages of the cotton-mills. Furthermore, it may be stated that in spite of the abundance and universal occurrence of *Simulium* in the area studied, we have been unable to elicit a history of frequent biting of man by buffalo gnats or black flies in Spartanburg County and this point has been inquired into with special care in the cases of pellagra observed. The experience of the field workers of the commission itself, who have spent day after day in the homes and environs of the pellagrins in Spartanburg County, has failed to note a single instance in which anyone of them personally has been attacked by a fly of the genus *Simulium* during the season of 1912.[6]

A comprehensive consideration of the insect life in the county undertaken by Mr. A. H. Jennings and Mr. W. V. King of the Bureau of Entomology, U. S. Department of Agriculture, has led them to the conclusion that if the distribution of pellagra is to be accounted for by a blood-sucking insect, the observed facts in Spartanburg County point to *Stomoxys calcitrans* as the most probable insect carrier. This opinion is shared by the members of the commission. We do not regard the evidence of transmission of pellagra by a blood-sucking insect in this county as at all conclusive, but we do consider it an important field for further observation.

The possible relation of an insufficient diet to the occurrence of pellagra has received careful consideration and we are inclined to ascribe considerable importance to it, not as the sole or essential cause of pellagra, but as a predisposing factor. The foods rich in animal protein, namely, meat, milk and eggs, although apparently used in abundance by a few individual pellagrins in our series, are, nevertheless, conspicuous by their deficiency in many of the cases. The use of these foods may perhaps be

4. Myers and Fine: Metabolism in Pellagra, Am. Jour. Med. Sc., May, 1913, p. 705.

5. MacNeal: Observations on the Intestinal Bacteria in Pellagra, Am. Jour. Med. Sc., June, 1913, p. 801.

6. During 1913 two instances of biting by gnats of the genus *Simulium* have been noted by the investigators.

regarded as an index of economic condition and the variation in the incidence of pellagra be explained as due to economic factors in general. We are inclined, however, to regard the relation of nutrition to pellagra as a more direct one. The thesis that deficiency in the quality and quantity of food can be regarded as the essential cause of pellagra seems to us not to be supported by our studies. The fact is that a poorly nourished community generally shows a higher incidence of pellagra than one on a higher plane of nutrition, and, further, that those individuals in a community who are more poorly nourished seem more liable to develop pellagra. There is abundant evidence that other weakening factors, such as exanthematous disease, childbirth and tuberculosis, may play important rôles as predisposing factors. We are inclined to lay stress on the indication apparent in our statistics that poor nutrition or other predisposing cause results in pellagra only when the individual in question has lived in a relatively close association with a previous case of pellagra. The great mass of the population living under the same general conditions of environment and using the same food but living at a greater distance from cases of pellagra escapes the disease.

Our ideas concerning the location of a hypothetic infectious agent in the body of the pellagrin and the exact mode or means by which it gains the body of a new victim are very indefinite. The possibility of transmission by blood-sucking insects has already been considered. This hypothesis calls for the presence of the parasite in the blood or in the superficial tissues of the body. We are not aware of other important reasons for supposing that the hypothetic parasite exists in either of these situations. The gross and microscopic appearances and the distribution of the skin lesions as well as the histologic changes in the nervous system have been generally regarded by pathologists as reactions to a general intoxication rather than to local infections.[7] No microorganisms have been recognized in these lesions. The possibility that such may exist there cannot, however, be excluded.

The possible localization of the hypothetic parasite in the digestive tract has seemed to us to be worthy of careful consideration. The observed distribution of the disease in Spartanburg County is in accord with the conception that pellagra may be transmitted through contamination of food with the excretions of pellagrins. Its greatest prevalence is in those places without adequate provision for the disposal of human wastes. The agreement between the distribution of the open surface privy close to the unscreened dwellings and the distribution of pellagra is in many instances rather striking. The quite constant presence at necropsy of pathologic lesions in the intestine, acute or chronic inflammation, ulceration and atrophy of the intestinal walls in the later stages, as well as the common occurrence of gastro-intestinal symptoms early in the course of the disease are in accord with this hypothesis, although of course they may also be explained as secondary phenomena. In our opinion the view that pellagra is an intestinal infection, transmitted by contaminated food, to which the individual is rendered more susceptible by malnutrition, poorly selected or poorly prepared food and by the common gastro-intestinal disturbances resulting from errors in diet, is a conception worthy of much further study.

These views are expressed at this time to serve as a general summary and conclusion to the series of papers which constitute the first progress report of this commission. Many, but not all of the observed facts on which it is based have been presented in detail in these separate papers. We hope to supplement and extend the observations during the second year of the investigation and expect to present in a later report results of all the work in greater detail, together with ample discusssion.

SUMMARY

1. The supposition that the ingestion of good or spoiled maize is the essential cause of pellagra is not supported by our study.

2. Pellagra is in all probability a specific infectious disease communicable from person to person by means at present unknown.

3. We have discovered no evidence incriminating flies of the genus *Simulium* in the causation of pellagra, except their universal distribution throughout the area studied. If it is distributed by a blood-sucking insect, *Stomoxys calcitrans* would appear to be the most probable carrier.

4. We are inclined to regard intimate association in the household and the contamination of food with the excretions of pellagrins as possible modes of distribution of the disease.

5. No specific cause of pellagra has been recognized.

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7. Ormsby and Singer: Clinical and Pathologic Studies, Rep. of Pellagra Commission of State of Illinois, Springfield, Ill., 1911, p. 16; Singer and Pollock: The Histopathology of the Nervous System in Pellagra. THE ARCHIVES INT. MED., June, 1913, p. 565; Mott: The Histologic Changes in the Nervous System of Dr. Box's Case of Pellagra. Brit. Med. Jour., July 5, 1913, p. 4.

CLOSED TUBERCULOUS PYONEPHROSIS

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Closed pyonephrosis is one of the most unusual and uncommon complications of renal tuberculosis. As a result of the extensive pathologic changes associated with this form of kidney infection the renal pelvis or the ureters may become completely occluded so that the secretion from the kidney no longer reaches the bladder. This process is called "autonephrectomy" and the resulting condition "closed tuberculous pyonephrosis," or "pyonephrosis tuberculosa occlusa."

This condition is of great surgical interest on account of its rarity as well as the great difficulty experienced in the majority of cases in making a positive diagnosis before operation. Smirnow was able to collect reports of only twenty-four cases scattered through the literature. These he briefly abstracts in a recent paper and adds a personal observation. In this series of cases it is noteworthy that not a single one was reported from this country, and only one case (Whipple) is reported in the English literature. While this complication is comparatively rare, it hardly seems possible that it is as rare as these statistics would indicate. It is significant, however, that Kapsammer records only three in his large series of operations for renal tuberculosis, while not a single one is reported by Israel. Moreover not more than three cases have been reported by any one observer. That the diagnosis is often difficult, or even impossible in some instances before operation, is evident from the fact that in the series collected by Smirnow the condition was recognized and accurately interpreted before operation in only a few cases (six or seven). Without the data furnished by the cystoscope and ureter catheter one had to depend on the older clinical methods of examination for

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the diagnosis. It was impossible by these means to determine accurately, in certain cases, which was the healthy and which the diseased organ. When the diseased kidney was insensitive and not palpable, while the healthy one was sensitive, palpable and enlarged, the latter has been mistaken for the diseased kidney. The mistake has been made of removing the only functioning organ.

It is probably safe to say that no other condition of the kidney presents greater difficulties in the way of an accurate diagnosis than closed tuberculous pyonephrosis in certain cases. Even with the aid of the newer methods of examination these difficulties are at times insurmountable and a definite preoperative diagnosis is impossible (Zuckerkandl's first case). Closed tuberculous pyonephrosis results from the occlusion of the pelvis of the kidney or the ureter at some point. This may occur in the kidney or ureter, usually at the lower end of the ureter. The resulting anatomicopathologic condition will depend on the number and the location of the strictures as well as on the time when the permanent occlusion takes place. If the stricture occurs at the lower end of the ureter, the latter is generally dilated, together with the renal pelvis; if at the upper end, the ureter will be permeable up to the point of the occlusion, but not dilated, and the renal pelvis and calices may be enormously distended. When the occlusion takes place relatively early, there is generally dilatation above the stricture; if, on the other hand, this occurs gradually and relatively late the kidney may become completely destroyed, and only remnants of the organ will be found at operation, surrounded by dense fibrous tissue.

We find, therefore, that cases of pyonephrosis tuberculosa occlusa fall naturally into two main groups, depending on the presence or absence of renal distention: (1) those presenting a lumbar or abdominal tumor and (2) those in which there is no tumor present and the affected organ is atrophic.

The majority of cases belong to the first group. These patients usually seek relief on account of the swelling in the lumbar region or the upper abdomen, associated with marked pain.

The size of the tumor will depend on the distention of the kidney and its pelvis, and naturally varies widely in different cases. Exceptionally it may attain enormous proportions; in one case (Delbet) the pyonephrotic sac contained 4 liters (about 4 quarts), in another (Tuffier) 2 liters, and in a third (Krausse) 1 liter. Very confusing from the standpoint of diagnosis are the cases in which the abscess ruptures and the pus burrows down along the psoas muscle and points at a lower level. In such cases the condition may be mistaken for one of spinal disease (Simmons' first case).

To the second group belong the cases with extensive renal destruction without distention. The kidney is gradually destroyed by cavity formation and advancing sclerotic changes with fibrous and fatty transformations. In this way the pelvis may be completely obliterated and replaced by a dense deposit of fatty tissue. The small cavities within the kidney substance are surrounded by dense fibrous tissue which completely replaces the renal parenchyma.

The affected kidney is atrophic and at operation is found buried in a dense fibrous tissue. Zuckerkandl was the first to call attention to these cases in his paper before the German Urologic Society in 1907, in which he reported three cases. The difficulties in the way of a correct preoperative diagnosis are well illustrated in the first case. The bladder was so extensively involved with tuberculous ulcers that it was impossible to obtain separate urines. One kidney was large, palpable and tender, while the other was insensitive and not palpable. It was natural to assume that the large kidney was the diseased one. It was only by exposing both kidneys that the real condition was revealed, that the enlarged kidney was the healthy one and had undergone compensatory hypertrophy, while the other was sclerotic and pyonephrotic.

In pyonephrosis tuberculosa occlusa the pathologic changes are not limited to the kidney and ureters, but the infection may extend to the surrounding tissue. This extension occurs directly by the rupture of the pyonephrotic sac or indirectly by the lymph channels. In such cases the perirenal and periureteral tissues are thickened by deposits of dense fibrous and fatty tissue which obscure the anatomic landmarks and make operative interference extremely difficult and tedious. The bladder, too, often becomes secondarily involved by direct extension and complicates the clinical picture.

As suggested by Smirnow the cases of pyonephrosis tuberculosa occlusa may be divided into three clinical groups from the standpoint of diagnosis:

1. The bladder is tuberculous. In the region of the supposedly diseased kidney a large tumor, the pyonephrotic sac, is found. The ureter on this side is impermeable. Diagnosis is easy.

2. The bladder is normal. One ureter is impermeable and on this side there is a tumor in the kidney region. Diagnosis is possible from the history of the case, and symptoms referable to other organs.

3. The tuberculous involvement of the bladder is far advanced and cystoscopy is impossible. An enlarged kidney can be palpated. Diagnosis is only possible by exploratory incision. The enlarged kidney may be healthy and only hypertrophied, while the other kidney is atrophic and tuberculous.

REPORT OF CASE

In February I was called in consultation by Dr. Selhausen to see a young man who he thought had trouble with his left kidney. He gave a history of bladder trouble dating back twelve years. This began with marked and painful urination. The urine contained pus and blood at times. He was examined by Dr. George Walker of Baltimore, who found that his bladder was ulcerated and that the urine contained tubercle baeilli. He was given the usual treatment for tuberculosis of the bladder employed at that time and was advised to go to New Mexico to live. During the next five or six years he lived in Las Vegas, N. Mex. During that time his general condition did not improve and he returned to Washington looking and feeling badly, and with the same urinary symptoms. Urination was so frequent that he had to wear a rubber urinal.

Two years ago he consulted Dr. Young of Baltimore. At that time his bladder capacity was only 30 c.c. Dr. Young was unable to catheterize his ureters, but suspected a left pyonephrosis and advised him to have an operation, but this was refused.

His condition remained about the same until about three weeks before I saw him, when he developed a fever and complained of pain in the left kidney region, extending up under the ribs. Because of the fever, pain and increasing weakness he had been confined to the house for the past three weeks. At the time of our first visit the patient was confined to his bed and complained of pain in his left side, which was sore and tender. He looked and felt ill, his complexion was sallow and he was thin and cadaverous. Examination showed a distinct bulging in the left loin, most prominent just below the costal border in the posterior axillary line. The overlying skin was reddened. This was tender to slight pressure and distinct fluctuation could be made out. The right kidney could not be felt. A hard, small nodule could be felt in each epididymis,

which he stated had been present for several years. The urine was perfectly clear, free from shreds and amber in color. The temperature was 101 F.

The diagnosis of perirenal abscess was made and the patient was sent to the university hospital. The same evening an aspirating needle was introduced and a large quantity of thick pus was evacuated. The following day, under cocain, this abscess was opened and a large cavity was found extending upward superficially underneath the ribs toward the pleural cavity. This was evacuated and drained by two rubber tubes.

He improved rapidly after this operation. The fever subsided and he gained 20 pounds in weight during the next three months. Meanwhile the wound continued to discharge profusely despite daily irrigations. The cavity contracted down to a sinus occupied by the drainage-tube, extending about 5 inches upward beneath the ribs. The discharge continued very profuse.

In June, 1911, four months after the operation, it was evident that the patient was losing ground. He again developed a rise in temperature, became weaker and began losing weight. A cystoscopic examination was made at this time and revealed an interesting condition. The bladder was definitely contracted, holding about 90 c.c. The bladder wall was in general normal. The trigon appeared to be pulled around to the left about 45 degrees, so that the right ureteral opening was directly in the midline, while the left opening was drawn far up on the left side. The left opening was indistinct and was surrounded by a hemorrhagic area of inflammation. The right opening was large, patulous and emitted urine at frequent intervals. There were no ulcers present and no tubercles could be seen. Nothing could be seen to escape from the left ureter. A catheter was introduced into the left ureter and passed without difficulty to the pelvis of the kidney. Nothing was obtained through this catheter. Indigocarmin was injected; this appeared from the right ureter in nine minutes. A colored solution was injected into the left ureter in considerable quantity to demonstrate if possible a connection between the pelvis of the left kidney and the sinus of the previous operation. No color appeared and the dressings were not subsequently soiled. It was evident from this examination that the left kidney was not functioning, and there was no demonstrable connection between the kidney pelvis and the sinus from the previous operation. There was no stricture of the left ureter. It was also evident from the patient's general condition that there was a deep focus of infection which had not been reached and which was responsible for his fever and other signs of toxemia. It was presumed that this deep abscess was in the kidney and that the condition was one of closed pyonephrosis, but its relation to the abscess opened four months before was not clear. An exploratory operation on the kidney was advised and accepted.

On June 2 a lumbar incision was made. The scar tissue was pronounced, infiltrating the muscle and obscuring the anatomic landmarks. The lower pole was exposed and stripped of its thickened capsule. Over the upper pole the capsule was greatly thickened and so firm and adherent to surrounding structures that it was with difficulty separated. In the process of freeing this the finger broke through suddenly into a large abscess cavity, and pus in large quantities welled up into the wound. This cavity was rapidly enlarged, exposing an abscess cavity quite as large as one's fist. This cavity was separated from the abscess cavity, opened at the first operation, by the thickened diaphragm. It was evident that the original trouble was at the upper pole of the kidney. The abscess had made its way through the diaphragm and involved the pleural cavity in a tuberculous empyema. It was the abscess in the latter situation which had pointed below the costal margin and was opened at the first operation.

The remnants of the renal parenchyma at the lower pole were removed by merely twisting this off with a pair of clamps. There was very little bleeding. The pelvis and ureter were not identified and were not searched for on account of soiling the wound. Rubber drains were used in the separate cavities, and partial closure of lumbar incision with gauze packing about the drains.

Hemorrhage during the operation was not abundant and was easily controlled. The patient reacted well but was very weak and the pulse was very rapid. On the third day after the operation the bowels were opened with a laxative. A fecal fistula was formed and there was profuse discharge of feces through the wound. Careful examination showed that the fistula had formed at the site of the abscess in the upper pole. The patient's condition grew worse, the abdomen was tender, there was muscular rigidity, the temperature was subnormal and the pulse-rate increased. In the course of the next few days the tenderness and rigidity disappeared, but the condition continued desperate. The fecal fistula continued to discharge, while the drainage of the pus was profuse. The remaining kidney continued active. The patient gradually grew weaker and died ten days after the operation. No necropsy was permitted.

There are several interesting features in the case here reported.

The history of the case covers a period of over twelve years. The first symptoms complained of were referable to the bladder—frequency, urgency, and tenesmus. The lesion in the kidney had unquestionably existed for some time without giving rise to any localizing symptoms. It was only when the bladder became involved in a descending infection that symptoms were produced that attracted attention and forced the patient to consult a physician. At this time the examination showed a marked ulcerative cystitis. The urine contained considerable quantities of pus, and blood and tubercle bacilli were found. When I first saw him, twelve years later, the urine was perfectly clear. Cystoscopy showed a practically healthy bladder mucosa, but a reduced bladder capacity.

The absence of the marked ulcerative cystitis which was present at the first examination was due unquestionably to the blocking of the communication between the infected kidney and bladder. With the flow of infected urine from the kidney over the bladder mucosa cut off the vesical lesions cleared up and practically entirely disappeared. This is an interesting observation and shows how the bladder tuberculosis sometimes heals when the primary source of the infection has been removed by nephrectomy. Here autonephrectomy has accomplished, so far as the bladder was concerned, what surgical nephrectomy at times accomplishes in similar cases. This case illustrates very well the fact that autonephrectomy cannot be considered a curative process. The subsequent history of the patient warns us against trusting to the natural cure of renal tuberculosis by autonephrectomy.

Another interesting feature is the rupture of the abscess in the upper pole through the diaphragm, producing a tuberculous empyema. It was the pus from the pleural cavity gravitating to the lowest point and producing a fluctuating swelling at the costal border that first attracted attention to the region of the kidney. I have not met a similar complication among the cases of closed pyonephrosis reported in the literature. The position of the abscess in the upper pole directly beneath the diaphragm, and the dense fibrous tissue surrounding the whole kidney and closely adherent to the contiguous structure, probably accounts for the pus taking this course. The dense scar tissue doubtless prevented the pus from gravitating downward along the psoas muscle and ureter and outward toward the surface. At the first operation it was the abscess in the pleural cavity that was opened and drained. The primary focus in the kidney remained closed until the second operation.

A further interesting feature in the case is the fecal fistula which formed when the bowels were opened for

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the first time following the operation. This complication following operation for pyonephrosis and perirenal abscess has been noted, but is, fortunately, very rare. The fistula forms independent of any injury to the peritoneum or bowel. I am certain that in our case no injury was done to either the peritoneum or bowel. The discharge of bowel contents through the wound did not occur until after a laxative had been given. The most probable explanation of this complication in our case would appear to be that the peritoneum overlying the abscess in the upper pole of the kidney became involved and the loop of bowel became adherent at this point. When the support was removed by drainage of the abscess, the peritoneum and bowel gave way before pressure.

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GASTRIC ULCER FROM OVERWORKING THE STOMACH

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It has been my fortune during the past few months to observe seven cases of gastric ulcer which originated under conditions which are not encountered in the experience of the ordinary practitioner and which throw light on the conditions that in some instances at least bring about this trouble. The cases occurred in practice in the town of Tanana, Alaska. This town is situated in the central portion of the territory on the Yukon River. All the cases of gastric ulcer were in men who had been living under conditions peculiar to the country and to a primitive mode of life. They were all strong, robust men who had endured lives of hardship with hard work of the camp and trail. During the same period in the practice of this community there were no other cases of gastrointestinal disease. Gastric ulcer appears to be about the only kind of digestive disturbance these men have.

Of course so small a number of cases is too few to form a basis for generalization or for conclusions as to the causes of gastric ulcer. These cases are of interest in demonstrating that some conditions will cause the stomach to ulcerate. They are also of interest in that when the conditions which had caused the development of the ulcer were corrected the symptoms promptly subsided in every case treated. No operative interference was required to effect a cure.

In all of these cases the clinical manifestations were typical. Three were of the hemorrhagic type. In two of them there were profuse and repeated hemorrhages from the stomach, of 500 c.c. or more. There is no reasonable doubt as to the correctness of the diagnoses.

All of the men were engaged in outdoor occupations. They were hunters, trappers and miners. One was a telegraph operator at an isolated station on the Yukon River. He had, however, lived under the same conditions as the other patients. His diet had been the same.

The conditions of life in Alaska are such that few but strong men remain in the country and none but strong men can follow the trail and live in the woods and camps for a long time. The diet is such as the country affords, with the addition of tea, coffee, some liquor and canned goods. The meat is mostly bacon, or canned meats, and game, the latter being plentiful; meat forms a large share of the food. Vegetables are few. The bread is either baking-powder biscuit or the "sour-dough" hot cakes. From October until June there are no fresh vegetables. In some instances berries, put up with equal amounts of sugar, uncooked, were eaten as a preventive of scurvy. There was usually an attempt to keep potatoes unfrozen, which could be eaten as an antiscorbutic. Scurvy did not appear to be a factor in the cases which were treated for gastric ulcer, though it would seem that it might reasonably be taken into consideration as a contributing cause, especially in the hemorrhagic cases. The use of alcohol was carried to excess in but one case. The other men lived under conditions which made it very hard for them to get liquors. They were not hard drinkers, even when liquor could be easily obtained.

The essential factors which all these cases had in common were the following: 1. In all instances the food was rough. 2. There was a large proportion of nitrogenous food. 3. The cooking was poor. 4. Few green vegetables were used. 5. The meats eaten were either salt or dark meats, mostly game. 6. On account of the hard life which these men lived and the conditions of extreme cold they became accustomed to eat immense quantities of food which had a high caloric value.

These men needed a great amount of food to furnish energy for the strenuous physical exertion which their method of life necessitated as well as to maintain the heat of the body while they were exposed to the rigors of and extremely cold climate. The body called for an excessive amount of nourishment and the stomach had to furnish it. To furnish heat and muscular energy for the body the stomach was given coarse food, which was mostly nitrogenous and which was in some instances poorly cooked. Taking into consideration what the stomach had to do and what it had to do it with, it appears that the stomach deserves high credit for the way it attempted to do its work. One sample meal consisted of one duck, four potatoes and six baking-powder biscuits. A pound of beans and a pint of coffee is not an unusual simple meal for one of these men.

For a time the patients got along well. After a year or two there were usually symptoms of gastric ulcer. The histories usually gave the record of pain after eating. Indigestion and pain in the stomach would come on toward spring. The men found that they needed a change of food. They were no longer able to eat beans. There are a great many men who only reach this stage of the disease. They come to town where they can get eggs and raised bread and green vegetables. Some of them take warning from the premonitory symptoms and pay more attention to their diet. These men are suffering from the early symptoms of gastric ulcer. They cure themselves by changing their diet in response to the demands of Nature, which are manifested by cravings for certain foods that will be better suited to the stomach. After all, Nature is our best physician, and if we but obey her demands many of the diseases from which we suffer will be cured in their incipiency.

The stomach is a willing and a faithful servant to most of us. When our bodies demand nourishment the stomach seldom complains. It seems to know when it is required to do its best because the body needs food or when food is simply being thrown into it for the satisfaction of an overindulged appetite. When the body needs food the stomach usually does its best to furnish nutrition. When unneeded food is placed in the stomach, the stomach resents the imposition and refuses to digest the food. Among city dwellers who overload their stomachs we get indigestion. Among frontiersmen who have to overtax their stomachs we find the stomachs doing their best to accommodate their activities to meet the demands of the

system. Such stomachs get to secrete a strong and excessively acid gastric juice. They digest almost any kind of food and enormous quantities of it. After a while they get to digest their own walls. It is a wonderful demonstration of the way in which Nature will attempt to meet demands which are made even though the demands are most unreasonable. When we consider the causes and see the results it is not surprising that these men suffer from gastric ulcer and not from simple indigestion. They never acquire gastroptosis or atony. They have ulceration, which is the disease of strong stomachs that have been overworked rather than weak stomachs that have been abused.

This conception of the etiology of gastric ulcer may not apply to cases which come to the observation of practitioners who have to deal with patients most of whom follow the sedentary occupations of city dwellers. The fact that the causes which have been described have resulted in gastric ulcer is not without interest or significance. It suggests a rational line of treatment.

The most valuable article on the subject of treatment of gastric ulcer which has come to my notice has been that by Dr. J. W. Weinstein.[1] The treatment used in my cases followed the principles which are outlined by him. It is a treatment which has for its object the correction of the perverted natural process. There has been in a case of gastric ulcer a hypertrophy of the hydrochloric and peptic-secreting glands. The glands have become abnormally active. The muscular tone of the stomach is usually below normal. The stomach is apt to be dilated, but not below the normal level. It quickly regains tone. At the end of a week's treatment there was no more dilatation. It is probable that the fact that the patients treated were strong men, otherwise sound, materially aided in securing prompt recovery with medical treatment alone. When Nature is given a fair chance she will work her own cures, which is fortunate for the medical profession as well as for many of our patients. A little assistance is often all that is required by Nature for the perfection of a cure.

TREATMENT

Following is a brief outline of the treatment employed:

1. Rest in bed. This is essential for the first week; without it prompt results will not be secured.

2. The amount of gastric secretion is diminished by the use of belladonna or atropin given before meals.

3. Bismuth in some form is used before meals to protect the stomach walls.

4. When there is hyperacidity or pain over the pyloric region from 15 to 20 grains of sodium bicarbonate are given (four or five soda mints). It is well to give 15 grains of bicarbonate half an hour after each meal for the first week whether or not there is pain and distention.

5. A saline aperient is used every morning. Sodium phosphate in hot water has been found satisfactory.

6. A cold pack is applied over the stomach every night. The patient wears it through the night and takes it off in the morning. It is quite possible that the pressure by this pack over the stomach is beneficial. It seems to give some relief to the patients. They have less flatulence.

7. The food is to be eaten slowly, well chewed and is of a moderate quantity. The stomach is never loaded.

8. The foods which are allowed are those which call for a minimum of hydrochloric digestion. It is best to use foods which are largely digested in the intestine and which do not stimulate the functions of the stomach. The stomach is given a rest. Carbohydrate foods allowed are stale bread, crackers, shredded wheat biscuit, cereals with milk and little sugar, toast, corn-starch, tapioca. No nitrogenous food is permitted at first; later milk, then soft boiled or poached eggs, still later boiled fish. The fruits permitted are baked apples (pulp alone), ripe bananas (one at meal time), orange or grape juice in moderate quantities. The vegetables allowed are mashed potatoes, lettuce, asparagus tips, spinach or beet greens (tender leaves with salt and olive oil only as a seasoning). Butter and olive oil, weak tea or milk may be taken.

Foods not allowed are: stimulants of any kind; seasonings (other than salt or olive oil); meats; beef extracts; soups other than vegetable; salt or dried fish; any vegetable foods which have heavy fiber or husks; an excessive amount of sweets.

Tobacco cannot be used for the first ten days. After that time it can be used in moderation, but not chewed.

The treatment consists essentially in giving the stomach a rest and inhibiting the production of its secretion. This is accomplished by checking part of the secretion through the use of belladonna, by diminishing the activity of the secretion through the neutralizing action of its acid, by selection of foods which do not stimulate the gastric secretions and by diminishing the amount of food which is consumed. By the rest in bed the physiologic processes of the body are slowed up. The demand for food drops. A man who has been living an outdoor life with fairly active exercise in a cold climate will require from 4,500 to 6,000 calories of food to maintain the bodily heat and supply energy for his work. As soon as he is put to bed in a warm room the demand for fuel drops to from 1,600 to 2,000 caloric value. When, in addition to this relief of the stomach from the demands which have been made on it, the character of the food is changed so that it is easily digested and that most of it is digested in the intestine and not in the stomach, then in comparison with what it has been doing, the stomach is afforded an almost complete rest. This treatment is simple and rational. It has for the few cases treated proved itself to be extremely effective.

In the cases which were treated by this method there was no pain remaining at the end of the first week. When practicable the patient was required to remain in hospital for one week longer. At the end of that time the patients were ready to leave the hospital and complete the cure at home. In each case the nature of the trouble was carefully explained to the patient and he was given a typewritten letter of instructions for continuation of treatment, with diet lists of foods which were and which were not allowed. Thus far there have been no recurrences.

The results which have been obtained in the treatment of these few cases are unusual. It is not believed that such results will be obtained in treatment of persons who live in cities. We have had here exceptional material to work with. The men have all had excellent general constitutions. The results are interesting to the general practitioner as illustrating what cures can be accomplished under the most favorable circumstances and as demonstrating the soundness of the principles on which this method of the medicinal treatment for gastric ulcer is based.

The general practitioner has come to regard ulcer of the stomach as a disease which is not readily amenable to medicinal treatment. He is apt to turn his case over to the surgeon as soon as the diagnosis has been made.

1. Weinstein, J. W.: A New Method of Treatment of Ulcer of the Stomach, THE JOURNAL A. M. A., Sept. 28, 1912, p. 1151.

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No greater injustice could be done the patient. He has a trouble which is probably quite submissive to suitable treatment which is systematically carried out. He cannot be simply given a pill and a bottle of pepsin and cured. The fault in treatment of gastric ulcer has been largely that the physician has, until this time, given only a haphazard treatment. When the patient comes to his office the physician usually gives him some sort of a digestive ferment or a bitter tonic. He may even make a stomach analysis or wash out the stomach as frequently as the patient has sufficient funds to pay for. There is seldom an inquiry made as to the patient's mode of life or any attempt to correct the gross errors in his regular habit and method of life.

We are too apt to regard the stomach as a mere receptacle for food and drugs. It has been too little respected. The stomach can almost think. It knows what kind of food is put into it and tries to furnish a different kind of digestive juice for each kind. It knows when it is being imposed on or when it is simply being made to do its share of the work which the other organs of the body are doing. As a usual thing the stomach is as faithful and as uncomplaining as a beast of burden. It may be scalded with hot drinks and chilled with ices. It may be heaped with rubbish and soaked with gallons of beer. It may be pickled with alcohol and blistered with pepper and mustard. It may be required to convert pounds of the roughest material into nourishment for the body and may perform the seemingly impossible task for several years without complaint. In the end the efforts which it makes to meet the unreasonable demands of its master are its own undoing. The overworked stomach, though about worn out, keeps on with its efforts to produce a strong digesting secretion. It does not need medicine or much if any treatment. It needs simply to be given relief and an opportunity to recuperate, when it will again be the docile and willing servant which it has always been.

The surgical treatment of gastric ulcer has been successful in many cases. It is particularly so in the cases of chronic flat ulcer. In this type there are apt to be the most adhesions and other anomalies which need mechanical correction. In the small, deep, perforating ulcers which are frequently of the hemorrhagic type there has been less success from operative treatment. It is just this type of ulcer which is most quickly cured by readjustment of the diet and habits of the patient to natural physiologic laws. There is great hope of success in the rational treatment of gastric ulcer. It is well known that attacks of this disease come and go. It can be demonstrated that in most cases the attacks come as a result of definite causes and that spontaneous cures result when the patient responds to natural laws.

Absence of Hydrochloric Acid After Test Meal.—It is unwise to rely on a single negative result or even a series of negative results in the estimation of HCl unless the evacuation of the stomach is carried out at varying periods after a test meal. This is illustrated in the case reported by T. Gillman Moorhead (Dublin *Jour. Med. Sc.*, Oct. 1, 1913) in a woman aged 50, suffering from pain in the stomach, flatulence, vomiting and loss of weight. A test meal of the usual Ewald type removed an hour after taking showed no HCl. Several other examinations an hour after taking the meal showed the same results. In another test in which the removal of the meal was delayed until two hours after taking, HCl was found present in considerable quantities. Subsequent tests after longer intervals also showed HCl. Moorhead calls attention to the importance of this in case cancer is suspected on account of the absence of HCl in the stomach contents after a test meal.

NOTES IN THE STUDY OF POTASSIUM MERCURIC-IODID

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To attempt to add still further to the host of antiseptics may seem a useless endeavor. The field has already been well covered and the relative values and merits so well established that the most fastidious can now be readily satisfied. Of late years it has largely been a matter of the complementary qualities, rather than the germicidal powers, that has determined the choice of antiseptics. Indeed, at times the comparative antiseptic values seem ignored in the consideration of the less important qualities. But naturally the distinctive merit of all antiseptics should be first of all in antiseptic powers.

For this alone, then, potassium mercuric-iodid has a claim for marked consideration. No other antiseptic can justly claim such great power in great dilutions and none is of so remarkably low toxicity for its strength.

PREPARATION

Potassium mercuric-iodid has been described in New and Nonofficial Remedies.[1] Red mercuric iodid is readily soluble in alcohol or water on the addition of approximately twice its weight of potassium iodid. A new salt is formed, potassium mercuric-iodid, K_2HgI_4. Thus this salt is formed from 1 grain of mercuric iodid and $2^1/_2$ grains of potassium iodid on the addition of a few cubic centimeters of water. If not enough potassium iodid has been used the resultant light-yellow solution, though apparently clear, will deposit after a few hours a yellow sediment of the crystals of potassium mercuric-iodid. To have the ideal solution, sufficient potassium iodid should be added to give a perfectly colorless liquid, and only distilled water should be used in making it.

Boullay[2] states that a concentrated solution of potassium iodid will dissolve mercuric iodid in the ratio of 3 molecules of the mercuric salt for every 2 of the potassium salt. From such a solution, however, the crystals of potassium mercuric-iodid are prone to separate out, and often the red iodid itself comes down again. For practical purposes it is better to use the clear solution, the strength of which may be recognized from the amount of red mercuric iodid used. The small amount of potassium iodid, especially when dilutions are made, is an indifferent factor. Thus the formula of a 1 per cent. solution of mercuric iodid in potassium iodid would be:

Mercuric iodid	1 gm.
Potassium iodid	4 gm.
Distilled water	100 c.c.

This solution will be found quite permanent and may be kept for months without change. The liquid is clear, of metallic taste and very irritating to the mucous membranes. In dilutions which it is safe to use it shows no tendency to coagulate albumins; but it is incompatible with the organic alkaloids, with which it produces insoluble precipitates. On account of this property it has been used as a qualitative and quantitative test for the alkaloids.[3]

1. New and Nonofficial Remedies, 1913, p. 196. See also U. S. Dispensatory, ed. 19, p. 1800.
2. Boullay: Ann. de chim. et phys., xxxiv, 345.
3. F. F. Mayer and F. L. Winkler's Tests, Am. Jour. Pharm., 1886, p. 579; 1887, p. 1.

TOXICITY

A 1 per cent. solution gives all the effects of a mild irritant; if rubbed on the hands or applied as a wet dressing it produces a moderate hyperemia, tingling and hypersensitivity. On mucous surfaces its action is most marked. Applied by a swab to the nose or throat it causes a profuse flow of secretion, thin and watery. There is marked lacrimation, salivation and rhinorrhea which lasts for an hour or two. Sneezing is at times very severe, and this with the free discharge gives a picture closely resembling an acute attack of hay-fever. On the gastro-intestinal tract there is likewise decided irritation if taken in sufficient amount. A sense of burning in the epigastrium, nausea, vomiting and profuse diarrhea are the symptoms encountered. The drug has no apparent effect on the circulation, muscular or nervous systems, or on the genito-urinary tract.

It appears that if the local irritant effect is overcome by dilution, comparatively large amounts may be taken internally without producing severe symptoms. On a number of cases in which the drug was pushed, from 5 to 7 drops of a 1 per cent. solution was the limit of toleration, while from 15 to 18 drops of the same solution could be borne if well diluted. With a prolonged trial of the drug it seems that there is no tendency to cumulative effect. No ptyalism has been observed in any of the cases in which the strongest tolerable doses were given over a period of months. Elimination appears to keep pace fully with assimilation. Vomiting and other symptoms of gastric irritation that appear when too strong a dose has been taken soon subside when the drug is stopped. Its use, apparently, can be resumed at once after the toxic symptoms are abated.

EFFECTS ON PHYSIOLOGIC ACTIVITIES

In 1 per cent. solution *in vitro* potassium mercuric-iodid had no appreciable effect on ptyalin, rennet, pepsin-hydrochloric or pancreatic activity. This was verified repeatedly, and in every instance the series corresponded with the control. In respect to its activity on micro-organisms, however, a much different condition was found. Marked inhibitory and germicidal effects are seen in the weakest dilutions, and it is in this field that the drug finds its greatest usefulness.

Fermentation by yeast was prevented by the presence of potassium mercuric-iodid in dilution of 1:80,000; while in dilutions of 1:100,000 there was but a faint trace of yeast activity.

With a strain of staphylococci that was quite prolific on natural mediums, an inoculation in 1:80,000 potassium mercuric-iodid agar was sterile twenty-four hours later. A few scattered colonies (only three in one instance) appeared in the presence of 1:100,000 potassium mercuric-iodid.

A strain of typhoid bacillus did not appear in an inoculation of agar and broth mediums of 1:60,000 potassium mercuric-iodid strength. It was inhibited in dilutions up to 1:80,000 (Table 1).

A series to determine the relative activity of the germicide in relation to time showed that dilutions of 1:60,000 "killed" a typhoid strain in a period as rapid as two minutes. The procedure suggested by Park[4] of the use of contaminated pieces of thread was adopted.

The action on the flora of the gastro-intestinal tract can readily be inferred, though this matter has not as yet been definitely confirmed. At times clinical evidence seems suggestive, in the rapid disappearance of some of the intestinal diarrhea on the exhibition of this remedy.

Little, then, can be said of the noxious effects on the gastro-intestinal tract when the drug is taken in mild doses. There is no inhibition of ferment activity, and whatever harm that could occur would arise from destruction of intestinal bacteria.

As an incidental to considering effects on digestion of food it has been noted that in dilution of 1:100, 1:1,000 and 1:10,000 potassium mercuric-iodid hastens the formation of curd in milk. The stronger solutions are the more effective, a 1 per cent. solution in thirty-six hours' time leaving a firm, homogeneous, smooth curd above a perfectly clear whey. *Bacillus lactis* is inhibited by the presence of the salt in the same dilutions as previously recorded for other bacteria from 1:80,000 to 1:100,000.

TABLE 1.—RECORDS AND SUBCULTURES TAKEN AFTER TWENTY-FOUR HOURS

	Strength of Potassium Mercuric-Iodid Solution				
	1:60,000	1:70,000	1:80,000	1:90,000	1:100,000
B. typhosus—					
(Bouillon)	Sterile	Sterile	Sterile	Sterile	Three small colonies on plating
Staphylococci—					
(Bouillon)	Sterile	Sterile	Sterile	Scattered half dozen colonies on plating	Numerous colonies
B. lactis bulg.—					
(Milk mediums)	Sterile	Sterile	Sterile	Trace of activity	Moderate activity
Yeast-sugar sol.	Sterile	Sterile	Sterile	Very faint trace of activity	Faint trace of activity
B. acidi lactici—					
(Milk mediums)	Sterile	Sterile	Sterile	Trace of activity	Activity equal to the control

USES

Before consideration of its greatest value, its antiseptic powers, it may be well to notice some incidental uses for which the drug has been recommended.

In 1834 the salt was "presented to the profession as a new remedy of remarkable powers" by Dr. William Channing of New York.[5] With the enthusiasm common to the introduction of anything new the drug was "found useful in chronic bronchitis, whooping-cough, tonsillitis, chronic gastro-enteritis, dyspepsia, ascites, anasarca, amenorrhea, leukorrhea, eruptions and scrofula." No doubt this list would have been lengthened had Dr. Channing more confidence in the credulity of the profession. A man of his experience, however, no doubt honestly and fully appreciated the fact that he had come on a remedy of value. He further reports its use in some cases of phthisis, in which he found it mitigating the symptoms and prolonging life.

4. Park, W. H.: Pathogenic Bacteria and Protozoa; New York, Lea and Febiger, ed. 3, p. 108.
5. Channing, William: Am. Jour. Med. Sc., 1834, xiii, 388.

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Dr. Hildreth's[6] trial of the remedy satisfied him as to its benefits in "functional dyspepsia, amenorrhea, dysmenorrhea, leukorrhea, scrofulous affections, ascites and general dropsy." These two men used the solution of the drug in doses equivalent to from $^1/_{12}$ to $^1/_{20}$ grain of the crystals.

Its value as an internal remedy in all of the conditions mentioned is doubtful. It does, however, seem to have a marked effect on all catarrhal conditions of the mucous membranes, clearing up the common cold, apparently shortening the course of croup, and modifying the acute infections of the nose, throat and bronchi. This conclusion has been reached after careful observation and repeated trial. Nearly all patients with catarrhal conditions remark that it gives them great benefit in freeing the sticky mucus. This is particularly true in acute bronchitis. In those cases of gastritis and enteritis that exhibit much mucus the same effect has been noted. It further acts by its irritation to the mucous membrane as a mild stomachic if used in a careful dose.

In spite of frequent trials I have not obtained the effects claimed for it in leukorrhea and in menstrual disorders.

Locally, a beneficial effect has often been noted in atrophic rhinitis when applied in the nares as a swab or spray. In a dilute solution the remedy acts as a remarkable germicide and stimulant, resembling formaldehyd in its effects. The results seem more effective and permanent than those obtained with the latter. The irritant qualities of the drug exercise the secreting glands that remain, the mucus becomes thinner and more free, and the ozena rapidly subsides.

In a number of cases acute frontal sinusitis the drug has been tried by local application. Here again marked relief has been noted because of the free rhinorrhea that the irritation sets up. The free outpouring of thin mucus sweeps before it the thick purulent secretions that have backed up in the blind cavities. A possible objection to its use is the slight swelling of the mucous membrane and somewhat increased stenosis of the canals resulting. Naturally there is much danger of the promiscuous use of the drug in the nose and throat.

The French for a long time have been using potassium mercuric-iodid for syphilis and skin diseases, the prescription of preference being widely known as the "one, two, three mixture": 1 grain of red iodid, 2 grains of potassium iodid and 3 ounces of diluent, either water or alcohol. On account of its solubility, it was considered the most readily assimilated mercurial preparation. Actual experiments, however, have not been made to establish accurately this supposition. In psoriasis, cryptogenic infections of the skin and in lupus the French have long been partial to potassium mercuric-iodid, using it both internally and as an ointment.[8]

In this country Dr. Archibald Church has had good success from the use of sodium mercuric-iodid for intramuscular injections.[9]

But above all these incidental uses, it is as an antiseptic that its field is greatest, it being here practically universal in its possibilities, for in great dilutions its local effects and toxicity are insignificant while its germicidal qualities still remain high. The value of these virtues can readily be realized when the following facts are again referred to: 1. The drug may be taken internally in doses of 5 drops of a 1 per cent. solution without toxic effect. 2. A 1 per cent. solution has but slight irritant action. 3. A dilution of 1:80,000, or nearly one one-thousandth of 1 per cent., exhibits marked germicidal powers.

At a glance Table 2 will give a graphic idea of where this solution stands in relation to other common antiseptics.

TABLE 2.—PARK'S TABLE OF ANTISEPTIC GERMICIDAL STRENGTH*

Alum	1:22		
Aluminum acetate	1:6,000	Ferrous sulphate	1:200
Ammonium chlorid	1:9	Formaldehyd 40 per cent.	1:10,000
Boric acid	1:143	Hydrogen peroxid	1:20,000
Calcium chlorid	1:25	Mercuric chlorid	1:14,300
Calcium hypochlorite	1:1,000	Mercuric iodid	1:40,000
Phenol	1:333	Pure formaldehyd	1:25,000
Chloral hydrate	1:107	Silver nitrate	1:2,500
Copper sulphate	1:200		

* Park, W. H.: Pathogenic Bacteria and Protozoa, ed. 3, Lea and Febiger, p. 108.

There appears no limit to the use of potassium mercuric iodid in this field. Cases of erysipelas, acne, pustular infections of the skin of all varieties, lupus and psoriasis show remarkable results under its use. The purulent discharge of so many minor surgical cases such as infected burns, old leg ulcers and ragged wounds is rapidly cleared up. Even when the affection is somewhat subcutaneous, as in felons and boils, when there is as yet no pointing or definite formation of pus, a wet dressing of 1 per cent. potassium mercuric-iodid will usually reduce the prolonged course of the case and will frequently abort it altogether.

For the sterilization of instruments the drug is excellent, except for its tendency to tarnish if left in contact too long. This can be easily overcome by the addition of a little sodium bicarbonate to the solution. McClintic suggests the addition of sodium bicarbonate to overcome this disadvantage.

It is hoped that with such definite evidence of the value of potassium mercuric-iodid, the recommendation of its clinical results and its manifest powers in laboratory experiment, this preparation will find some disciples among those who wander indefinitely hither and thither from antiseptic to antiseptic.

1805 Chestnut Street.

6. Hildreth: Am. Jour. Med. Sc., 1853, xxvi, 1312.
8. Progrès méd., July, 1913.
9. Puckner, W. A.: The Use of Mercuric Iodid Solutions for Intramuscular Injections, THE JOURNAL A. M. A., Feb. 13, 1909, p. 573.

EXPERIMENTAL STUDIES IN POLIOMYELITIS *

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The establishment of abortive and meningitic forms of poliomyelitis by Wickman has thrown much light on the epidemiology of the disease. In the efforts to produce the disease in monkeys by the injections of the secretions of abortive cases, there have been varying degress of success.

Kling, Pettersson and Wernstedt[1] report six cases in which inoculations from the mouth or intestines in abortive cases resulted in lesions characterized by degeneration rather than infiltration in the brain and cord of monkeys. The inoculation of several monkeys—the

* From the Research Laboratory, Department of Health, New York City.

1. Kling, Pettersson and Wernstedt: Investigations on Epidemic Infantile Paralysis, Rep. from the State Med. Inst., Sweden, to the Fifteenth Internat. Cong. Hyg. and Demog., 1912.

number is not stated—gave negative results. Three of the positive results were obtained by washings done ten days, one and a half months and three and a half months respectively after the onset of the symptoms.

On the other hand, Kling and Levaditi[2] were unable to obtain results in two abortive cases. They were unsuccessful, however, in a large percentage of their typical cases. In their interesting study they point out a type of case not often described, namely, a type characterized by a short prodromal stage with headache, fever and malaise succeeded by a period of apparent good health lasting several days, after which the true attack develops with manifestations of nerve involvement which may go on to death.

Monkey 2 of our experiments seemed to show this clinical picture with respect to the objective symptoms. Kling, Pettersson, Wernstedt point out that degenerative lesions not accompanied by infiltration are characteristic of an attenuated virus, this being the type of lesion they obtained from the abortive cases. The lesions in the monkeys in our experiments showed considerable infiltration as well as degenerative changes, but the virus died out quickly.

In the summer of 1912 we passed the feces from a typical case of poliomyelitis through a Berkefeld filter and injected the filtrate intraspinally into a monkey with negative results.

Jan. 10, 1913, we were called to see a case of what we diagnosed as abortive poliomyelitis.

History.—Robert A., aged 5, reported by Dr. Spivacke. There was a sudden onset January 7, with a temperature of 102 to 106 F. of short duration, which was not followed by paralysis.

Lumbar puncture January 10; 50 c.c. clear fluid withdrawn under high pressure. Cytology: cells increased, 90 per cent. mononuclears, and a number of large endothelial cells were found. Bacteriologic examination: smear negative, culture sterile. Albumin + (slightly increased). Globulin + (slightly increased). Animal inoculation: two guinea-pigs; one died January 19, and on necropsy showed pus in the pericardium and the pleura. The other was found to be negative. February 11.

Jan. 24, 1913, Mrs. A., Robert's mother, who had been taking care of him in isolation, had her nose and throat thoroughly washed out with normal saline solution. January 25 and 26, washings were passed through a Berkefeld filter. January 27, 40 c.c. were injected intraperitoneally into a monkey. The result was negative.

Jan. 24, 1913, Robert's nose and throat washed out with normal saline. He kicked and screamed and struggled so that we could not do it satisfactorily. January 25 the washings were put through the Berkefeld filter and 20 c.c. injected intraperitoneally into a monkey.

February 14: Monkey sick.
February 17: Partially paralyzed in hind legs.
February 18: Drags right foot; chloroformed.
Necropsy.

Brain: slight injection of cerebral vessels; dura not adherent; otherwise macroscopically negative, and no hemorrhage in the cortex.

Spinal cord: congestion of dura over dorsal region, extending down to the lumbar enlargement. Dura not adherent; no hemorrhage in the spinal cord itself; gray matter easily distinguished from surrounding white columns. Apparently no increase in cerebrospinal fluid.

Thorax: heart and lungs negative.

Abdomen: liver somewhat enlarged; otherwise negative; spleen, gastro-intestinal tract and kidneys negative.

Sections from spinal cord, cerebrum and medulla showed round-cell infiltration and some degeneration of anterior horn cells. Smears from the spinal cord, cerebrum and medulla proved to be too thick and nothing could be made out from them.

The brain and cord were stored in the ice-box in 50 per cent. glycerin.

February 24: Emulsion from cerebrum, medulla and spinal cord of the monkeys made in normal saline, filtered through gauze and then through Berkefeld and filtrate injected intraperitoneally in Monkey 2.

March 6: Monkey paralyzed in right hind paw. Temperature, 104.5 F.

March 8: Temperature, 103.2 F.

After this the monkey slowly improved and partially regained the use of its paw. It seemed in fairly good condition until April 19 or 20 when the upper extremities became involved. It was killed April 24.

Through a misunderstanding an assistant did a partial necropsy, removing the brain and cord, but macerating the cord so that sections could not be made. He said that the cord seemed very soft and that there was a great deal of fluid present, and also that there was something the matter with the lungs.

Impression smears of the brain stained with Giemsa showed a few extracellular and intracellular globoid bodies like those described by Noguchi.

April 10: Monkey injected intraperitoneally with filtrate made by passing through a Berkefeld filter an emulsion made up with normal saline solution of portions of the cord, medulla and cerebrum of the first positive monkey. Result negative.

May 8: Filtrate made by passing emulsion of remnants of spinal cord, medulla, etc., of the second positive monkey through Berkefeld filter was centrifuged and the upper portion injected intraperitoneally into a monkey with negative results.

SUMMARY

1. Negative results from feces of patient with typical poliomyelitis.

2. Positive result (paralysis and microscopic findings) from washings of nose and throat of patient with abortive case seventeen days after onset.

3. Positive result (paralysis and microscopic findings) of second monkey injected with brain and cord of monkey infected with washings.

4. Rapid loss of virulence of brain and cord.

2. Kling and Levaditi: Etudes sur la poliomyelitis aiguë epidémique, published by the Institut Pasteur de Paris, 1913.

THE QUANTITATIVE DETERMINATION OF ALBUMIN IN SPUTUM WITH POTASSIUM FERROCYANID *

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In summing up the annual records of sputa examinations in the past years it has been somewhat humiliating to realize that specific information has been given from the laboratory findings in only a little over one-fourth of the cases. The remaining three-fourths have been reported back negative, meaning that the patient may or may not have been afflicted with tuberculosis.

* From the laboratory of the Michigan State Board of Health

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The investigations of the albumin test during the past three years have inspired the laboratory worker with a new hope. The possibility of being able definitely to exclude tuberculosis by laboratory methods in a large proportion of cases is comforting, and the probability of giving valuable assistance in the diagnosis of incipient cases, while still closed, before the bacilli appear in the sputum is encouraging; but the additional announcement of a quantitative method and the presumptive relation between the percentage of albumin and progress of the case incites our fondest dreams.

Most workers who have investigated the albumin reaction are convinced that it is not receiving the attention it deserves.

In reviewing the literature we have been impressed with the comparative lack of uniformity in technic employed by different writers. Roger and Levy-Valensi diluted the sputum with equal volume of water, Lesieur and Prirez used one volume of sputum to four volumes of normal saline solution, and various other dilutions have been employed. Acetic acid, either quantity or strength not stated, has been used to coagulate the mucin. The method and reagents employed to determine the presence or absence of albumin are too numerous to mention. The personal equation in a test of this nature also is perhaps no small factor in producing variable results. In 1912, B. O. Works[1] proposed a quantitative method for determining albumin in sputum which is undoubtedly a step in the right direction. He coagulated the mucin in the sputum with 3 per cent. acetic acid, diluted to 33⅓ per cent. with distilled water, filtered and determined the albumin in an Esbach albuminometer. In our opinion the quantity of acetic acid should be specifically stated, as an insufficient quantity gives incomplete separation of mucus and an excessive quantity disintegrates the leukocytes and prevents proper separation of pus proteins. We also regard Esbach's reagent as an improper test for albumin in a mixture so complex as the average sputum. In many instances a precipitate is produced with this reagent when true albumin can be shown to be absent. Picric acid, the active ingredient of Esbach's solution, is a general alkaloid reagent. It precipitates with peptones, urates, creatinin and other bodies not affected by potassium ferrocyanid. Works found that his method gave albumin reaction with normal saliva, a fact we have repeatedly been able to confirm.

During the past two years we have been experimenting with a method for the quantitative determination of albumin which appears to give satisfactory results. A quantity of sputum, not less than 10 c.c., is collected in a dry receptacle in the usual way. (Samples containing blood should be rejected, as blood invariably contains albumin.) After smears for microscopic examination have been made a quantity of sputum not exceeding 10 c.c. is poured into a 50 c.c. graduated glass-stoppered cylinder. To this is added three times its volume of water containing 1 per cent. acetic acid, diluting the sputum to 25 per cent. After vigorous shaking with the stopper in place, the mixture is filtered through filter paper directly into a graduated centrifuge tube and 10 c.c. collected. To this are added 5 c.c. of 5 per cent. solution of potassium ferrocyanid in water and the tube whirled in a centrifuge for five minutes at average speed. The amount of albumin is most conveniently recorded in volume per cent., each 0.1 c.c. on the tube being 4 per cent. by volume after correcting for the original dilution. Absolute accuracy is impracticable in this work, so only approximate results should be recorded. If desired, the volume per cent. may be calculated to weight per cent. according to the method of Purdy for urinalysis.

At the time of this writing we have employed the above-described methods on something over five hundred sputa, including routine examinations and selected cases. The findings from 337 consecutive specimens taken in the summer and fall of 1913 are given in the accompanying table.

SPUTUM EXAMINATIONS

Tubercle Bacilli	Present	Absent
Albumin Reaction—		
Absent	1*	143
Below 2 per cent. by volume	6†	14 (1‡)
Between 2 and 5 per cent. by volume	4	16
Between 5 and 10 per cent. by vol.	6	24 (2‡) (1¶) (1§)
Between 10 and 25 per cent. by vol.	(1‡)28	34 (3‡) (2§)
Between 25 and 50 per cent. by vol.	34	13 (1‡) (1§)
Above 50 per cent. by volume	13	1
Totals	92	245

* Sample unsatisfactory. Patient died before another could be secured.

† Two were from improved cases. One showed both albumin and tubercle bacilli negative the following month. The other was lost track of. Other four were mostly saliva.

‡ Contained blood.

¶ Case of pneumonia complicating pharyngeal diphtheria; adult.

§ Tubercle bacilli subsequently found.

Our experience indicates that potassium ferrocyanid when employed according to the method recommended does not produce a precipitate with normal saliva or gastric juice. Secretions from rhinitis, pharyngitis, bronchitis, asthma and other superficial inflammations of mucous membranes have given uniformly negative results. We have found many specimens of highly purulent sputum even with markedly disintegrated pus-cells to give absolutely negative albumin reaction by this method. On four occasions sputa have been examined shortly before and shortly after the first appearance of tubercle bacilli on microscopic examination, and the amount of albumin found to be substantially the same, indicating that the quantity of albumin is independent of the presence or absence of tubercle bacilli. Likewise, cases that have previously shown tubercle bacilli present have shown negative albumin and absence of tubercle bacilli with apparent recovery.

CONCLUSIONS

We agree with other workers that:

1. The presence of albumin in sputum indicates that it is not a superficial secretion but usually comes from some deep-seated inflammatory process.

2. Albumin is present in practically all sputa of tuberculous origin and that the amount bears some relation to the activity of the disease.

3. Persistent absence of albumin or its presence only in traces excludes tuberculosis as the source of that sputum. In our experience with the method described this is true in a large percentage of the cases examined.

4. The determination of albumin in sputum is one of the most important aids to the diagnosis and prognosis of tuberculosis that has been introduced in recent years. The simplicity of the method commends itself to the general practitioner as a routine office procedure. It is as easily carried out as is the determination of albumin in urine and is of greater importance.

1. Works, B. O.: The Quantitative Examination of Albumin in the Sputum in Pulmonary Tuberculosis, THE JOURNAL A. M. A., Oct. 26, 1912, p. 1537.

A Social Ideal.—The substitution of solicitude for the race, as a motive, for desire for present and personal advantage, is the most important ethical product of civilization.—Henry B. Favill, M.D., in Louisville *Jour. Med. and Surg.*

THE DIET IN GASTRIC ULCER AND HYPERCHLORHYDRIA *

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There are three main methods of treatment of gastric ulcer: (1) the surgical method, (2) the duodenal feeding method, and (3) the hygienic-dietetic-medicinal method, each having its own appropriate field of employment. The relative merits of these methods, and the considerations which guide in the selection of one of them in given cases, it is not proposed to discuss in this paper. Even if the surgical and duodenal methods possess advantages in the way of certainty and celerity of results, it is likely that there will always be patients who will decline or defer resort to these methods, or are so circumstanced as to necessitate a trial of ambulant treatment, or with whom for various reasons hygienic, dietetic, and medicinal treatment will be adopted.

In the medical treatment of gastric ulcer the necessary hygienic and medicinal measures may in importance equal or even exceed the dietetic regimen. Rest in bed, prolonged for a sufficient period, is especially of the greatest service and in many cases is absolutely essential to the attainment of a medical cure. Medicinal treatment, such as the use of astringents like bismuth or silver nitrate, of alkalies, of analgesics like orthoform or codein, and other remedies, is also an essential concomitant of the dietetic treatment. It is not purposed to consider those concomitant measures or the treatment of complications in this paper, which is to be devoted to a discussion of the physiologic and therapeutic principles that may guide to the selection of a rational diet in those cases of ulcer of the stomach and hyperchlorhydria in which this line of treatment is adopted.

A dietary regimen which has been extensively employed in this condition is that of Leub, more or less modified. This system begins with a period of fasting or great restriction of food, followed by gradual increase in the amounts given. Milk is the staple of this diet, along with soups and broths; eggs, carbohydrate food, and meat are gradually added later. The intervals between feedings recommended by different authorities range from as short as one hour up to several hours. The object of the restricted diet is to afford rest and freedom from irritation to the ulcer by minimizing gastric activity and dyspeptic conditions.

The dietary introduced by Lenhartz[1] in 1903 has also attracted much attention. This diet consists of milk and eggs, to which sugar, meat and carbohydrate food are early added. The daily amount of food is rapidly increased from a small allowance to an adequate maintenance ration. The object of this more ample regimen is to promote the general nutrition, while its abundant protein by entering into combination with the excessive hydrochloric acid of the gastric juice is supposed to neutralize or inactivate the latter.

Another diet, the fatty diet, has been introduced, but as yet has attained only a limited use.

It is my opinion (possibly presumptuous) that much of the current dietetic practice in gastric ulcer is based on fallacious grounds, and that a consideration of certain well-established physiologic facts will afford a definite guide to the adoption of a rational diet for this condition.

There are some factors in the causation and treatment of ulcers of the stomach corresponding to those of ulcers elsewhere; and some etiologic factors that are still obscure; but there is one factor peculiar to this condition that is of the utmost importance in its etiologic and therapeutic bearings, namely, the digestive properties of the gastric juice. Whatever the other determining conditions, it is clear that the corrosive action of the gastric secretion is a potent factor in producing and maintaining peptic ulcers. The high acidity characteristic of the gastric juice in cases of ulcer, whether it be cause or effect, is significant of this causative action. In addition to the indications that apply in the treatment of ulcers in general, such as rest, avoidance of irritation, promotion of nutrition, etc., we therefore have as a fundamental and peculiar object in the treatment of gastric ulcer the reduction to a minimum of the acidity and digestive power of the gastric juice.

The secretion, composition and potency of the gastric juice vary definitely and markedly under the influence of various dietetic conditions, thus enabling us to arrange a diet calculated to effect a maximum reduction of its elements.

Ordinarily gastric secretion takes place only in response to the ingestion of food. When there is no food in the stomach there is no gastric juice, and hence during the fasting period an ulcer would be free from its corrosive action. Duodenal feeding enables the gastric secretion to be thus suppressed for an indefinite period. Excepting by this method (rectal feeding being ineffective) intragastric alimentation can be dispensed with harmlessly only for a few days. In gastric ulcer a preliminary period of complete fasting can be carried out for a few days; when feeding is instituted, it seems rational that the intervals between feedings should be made as long as possible, in order to gain the longest practicable periods of freedom from the action of the gastric secretion.

After the ingestion of food, as shown by Pawlow,[2] the flow of gastric juice takes place in two stages and under two sets of influences; first, a flow starting immediately, due to psychic influences; and, second, another flow starting fifteen to forty-five minutes later, due to chemical stimulation (hormone action) by certain of the foodstuffs.

The psychic influences which initiate the flow of the gastric juice are the appetite and an eager desire for food. These influences act independently of the chemical character of the food taken, and may operate even in the absence of actual swallowing of food. Theoretically, therefore, it would be rather an advantage in treatment of gastric ulcer to employ articles of food that are not especially tempting or appetizing, as thereby a lessened primary flow of gastric juice is excited.

The secondary stimulation of gastric secretion, which begins about fifteen to forty-five minutes after the ingestion of the food, is dependent definitely and markedly on the chemical character of the food materials. Some foodstuffs greatly increase the amount and potency of the gastric juice secreted at this period, some lessen it, some are indifferent.

The substances which have been found active in stimulating the secondary flow of gastric juice are water, impure peptones, meat extractives and caffein. Water does not act in small amounts, but in quantities of 400 or 500 c.c. it evokes a considerable gastric secretion. Meat extractives, as in soups, broths, bouillon, beef tea,

* Read before the Medical Society of the District of Columbia, Oct. 1, 1913.

1 Lenhartz, H.: Deutsch. med. Wchnschr., 1904, xxx, 472.

2. Pawlow, J. P.: Work of the Digestive Glands, second English ed., 1910.

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meat juices, meat, etc., are active excitants of the flow of a potent gastric juice. The products of protein digestion also chemically excite secretion by the stomach; native proteins, such as white of egg, lack this power, but when their digestion is once started by the primary psychic or appetite juice, the digestive products so formed further stimulate secretion. Beverages and solutions containing caffein have been found by Moore and Allanson[3] to cause (in general) a marked increase in the hydrochloric acid content, total acidity, and digestive power of the gastric juice one hour after ingestion, as compared with the controls; coffee acted most strongly, tea next, cocoa least. According to Pawlow, soaps formed from fat in the food also stimulate gastric secretion.

The amount and duration of gastric secretion are of importance as well as the acid content and peptic power. In experiments on dogs Portis[4] found that on a meat diet the total amount of gastric juice secreted and the duration of the secreting period were three or four times as great as on a vegetable diet. Milk gave a time slightly longer than the vegetable diet, but much less than the meat feeding.

The bearings of these facts on the treatment of peptic ulcer are obvious. Water should be allowed in limited quantities only, not more than 250 c.c. (8 ounces, or one glass) at any one time. Coffee, tea and cocoa should be excluded. Soups and similar preparations rich in meat extractives from their lack of nutritive value are not only useless, but from their powerful stimulating effect on gastric secretion would seem to be absolutely contraindicated. Meat, it would seem, should be avoided, and protein food in general reduced to a minimum. The practice of giving protein food with the view of its neutralizing the gastric juice would appear to be fallacious and disadvantageous, since this kind of food causes a maximum flow and potency of gastric juice and increases the free hydrochloric acid, which will act on the ulcer as well as on the material that called it forth.

Some ingredients of the diet are without any specific chemical effect on gastric secretion, such as carbohydrate material. Ingestion of sodium chlorid or of hydrochloric acid causes no flow of gastric juice or increase of its hydrochloric-acid content (Floersheim[5]). Organic acids (acetic, citric, lactic, butyric) have been found (Foster and Lambert[6]) to cause no increase of gastric secretion; the acidity of fruits would therefore not be objectionable in gastric ulcer.

Among substances that inhibit gastric secretion may be mentioned sodium bicarbonate; weak solutions (0.05 to 1.0 per cent.) of this substance evoke no secretion of gastric juice in amounts that would be effective if water alone were taken.

The greatest practical importance in this respect attaches to the influence of fat, which has been clearly shown by Pawlow and others to cause a marked lessening of gastric secretion, as compared with meals otherwise identical containing no fat.

Pawlow[2] found that when meat is given one-half to one hour after introducing large amounts of olive oil into a dog's stomach, the primary psychic flow of gastric juice is abolished, and the subsequent gastric secretion is very much retarded and greatly diminished in amount and potency. A similar result is obtained when the fat is given immediately after the meat, except that the psychic flow begins in the usual five minutes, the inhibitory influence of the fat appearing later. The effect of the oil continues for two or three hours, after which an increase in gastric secretion may take place. The formation of soaps may produce a late stimulation of gastric secretion.

Moore and Ferguson[7] in comparative tests in sixty-one cases (including twenty-nine of peptic ulcer) found that the total acidity, hydrochloric acid, and digestive power of the gastric juice, determined one hour after eating, were in the general average reduced about one-third when the test-meals were preceded half an hour by an ounce of almond oil.

Cowie and Munson[8] in their investigations found that olive or cotton-seed oil given in quantities of one or more ounces half an hour before the meal as a rule caused a reduction (averaging about a third) of the hydrochloric acid and total acidity of the gastric juice (as determined after the usual test period of one hour). When the oil was given after or just before the feeding the effect was much less. The reduction corresponded to the quantity of oil given, larger amounts usually causing a greater inhibition. The oil delayed the beginning of the secretion of gastric juice, and retarded the height of secretion, so that although the acidity was less with oil after sixty minutes, it frequently increased later, often reaching a maximum as great as that of the control. The oil tended to retard the motility and evacuation of the stomach and prolong the period of digestion.

The fat content of milk also has an inhibitory effect on gastric secretion. Test-meals containing milk bring about the secretion of a gastric juice with a less hydrochloric acid content and lower peptic activity (after one hour) than meals containing the same amount of water instead. This effect is proportionate to the amount of fat in the milk; cream causes a greater reduction than whole milk, while skimmed milk is least effective (Pawlow[2]). The total acidity of the gastric contents after milk is, however, considerably greater than after other foods. This is apparently due to the lipolytic action of the gastric juice splitting the milk fat and setting free fatty acids, which increase the total acidity. The fat-splitting action of the gastric juice is most effective on fat in a state of fine subdivision (as in milk); it has little effect on fats or oils in bulk, which are very little changed in the stomach.

As to the way by which oil lessens peptic activity, Pawlow holds that it acts by reflex nervous inhibition of the secretory mechanism (as evidently occurs in the abolition of the psychic juice). Others believe that in addition there is some mechanical interference with the secretory stimulation caused by the oil forming a coating over the gastric mucosa and the food masses. Reflux of duodenal contents into the stomach has also been suggested as having some effect.

Other properties possessed by fat that are of importance in connection with its use in the dietary of gastric ulcer are: its high caloric value; its local sedative properties; its relaxing effect on pyloric spasm, and its laxative action.

Investigations of the inhibitory influence of drugs on gastric secretion have been very scanty. Portis[4] obtained little effect from scopolamin or opium; the only drugs

3. Moore and Allanson: Proc. Roy. Soc. Med., London, V, Medical Section, Nov. 28, 1911, 19.

4. Portis, M. Milton: Louisville Month. Jour. Med. and Surg., 1908-9, xv, 230. Illinois Med. Jour., 1909, xv, 267. Lancet-Clinic, Cincinnati, 1909, ci, 9; THE JOURNAL A. M. A., Sept. 28, 1912, p. 1154.

5. Floersheim, S.: Med. Rec., 1912, lxxxi, 1089.

6. Foster and Lambert: Jour. Exper. Med., 1908, x, 820.

7. Moore and Ferguson: Proc. Roy. Soc. Med., London, III, Medical Section, Nov. 23, 1909, 25; Lancet, London, Dec. 11, 1909, p. 1737.

8. Cowie and Munson: An Experimental Study of the Action of Oil on Gastric Acidity and Motility, Arch. Int. Med., January, 1908, p. 61.

which he found effective were belladonna (especially before meals), and bromids (preferably in large doses and before eating, the strontium salt most effective). Hydrogen peroxid has been asserted by a number of observers to cause a reduction in hydrochloric acid secretion; it may be given in teaspoonful doses in a glass of water after meals, and is stated to be beneficial in hyperchlorhydria, though less so in ulcer (Hall[9]).

All the foregoing physiologic considerations have obvious, or at least theoretical, bearings on the dietetic treatment of both gastric ulcer and hyperchlorhydria, which may be thus summarized: The intervals between feedings should be made as long as possible, food being given preferably not more than two to four times a day. The diet should be as little appetizing, tempting and palatable as is practicable. Soups, broths and other preparations of meat extractives should be absolutely forbidden. Meat is to be excluded and protein food reduced. Coffee and tea should be avoided. Water should not be drunk in large amounts, not over 250 c.c. or 8 ounces at one time. Alkaline drinks, however, may be more freely taken. Carbohydrate food is permissible. Oil should be taken half an hour before meals, or the diet should contain a large amount of fatty material.

The fatty diet for gastric ulcer is grounded on these principles. While it has not yet come into extended use, the actual results obtained by those who have employed it have demonstrated its efficiency. No form of dietetic treatment will cure or ameliorate more than a certain proportion of ulcer cases; and good results are obtainable by diverse systems of feeding. There are no statistics by which the relative effectiveness of the fatty diet as compared with the Leube or Lenhartz methods can be estimated, but it is rational in theory and in practice it is capable of yielding satisfactory results in many cases.

In practice two forms of fat are mainly used, namely, (1) vegetable oils, such as olive oil, almond oil, cottonseed oil; and (2) milk fat, as in the form of cream.

In using vegetable oil, the best results would seem to be obtainable by giving it in quantities of an ounce or more a half hour before meals; with it is given a simple carbohydrate-fat diet. A number of writers have reported satisfactory results from this method. Oil thus given is, however, apt to become very tiresome and distasteful. As a variant method of administration it may be given made up in mayonnaise dressing, in which form it may be more acceptable and may be generously used as an ingredient of the diet.

The use of cream as the sole or chief ingredient of the diet is another plan that has found favor. The high caloric value of cream makes it one of the most valuable of dietetic articles for building up body weight and strength. One quart (four glasses) of cream a day yields about 1,800 calories, which alone is sufficient for many small-sized persons leading the quiet lives of invalids. (For a person weighing 100 pounds 1,800 calories is equivalent to 2,700 calories for a person of the standard wieght of 150 pounds.) A quart of cream, it is true, contains only about 25 gm. of protein; but 20 gm. more of protein would be furnished by the addition of, for instance, 600 c.c. of milk, or 220 gm. (six slices) of bread, or 230 gm. (five tablespoonfuls) of oatmeal gruel (cooked with milk), or three eggs. With cream as a basis an ample dietary can be arranged on which the body-weight will be maintained and even increased. The richness of cream in fat effects a marked inhibition of gastric secretion, and adapts it preeminently for use in peptic ulcer. Cream is less constipating than milk. It may cause acid gastric indigestion from the splitting of its fat by the lipolytic action of the gastric juice; but in my experience this troublesome effect usually disappears after a few days' persistence in the diet. Some patients cannot comfortably take cream as an exclusive and continued diet; yet in general it is better tolerated than might be expected, and if it causes no great disturbance there is no disadvantage in its not being especially relished. If not tolerated in full strength, the cream may be given diluted with an equal or greater amount of milk. The use of corresponding amounts of ice-cream in place of plain cream is a useful variant method of administration, which may be adopted *ad libitum;* and it is significant that unexpected benefit from the use of ice-cream in gastric ulcer was empirically noted before its physiologic rationale was elucidated.

My personal experience with the fatty diet in gastric ulcer covers about twenty-six cases. Not then aware of the published work along these lines, I was led by theoretical considerations to the conclusion that an abundance of fat with restriction of protein was the proper diet for this condition, and fixed on cream as a suitable foodstuff. In these cases cream was employed as the basic ration, ordinarily 1½ to 2 pints daily, divided into three or four feedings. Some patients were started with the full amount of cream, some with smaller amounts gradually increased, some with an initial fasting period. At first the cream was used alone; later were added cereal, bread, puddings, other vegetable food, eggs, etc.; oil (before or with meals), butter, mayonnaise dressing, and the like, were generously introduced into the dietary. Whenever desirable the cream was given diluted with milk, or in the form of ice-cream. Meat and soups were allowed last of all. The usual concomitant measures, such as rest in bed when feasible, astringents, alkalies, analgesics, etc., were employed as indicated.

During the first few days of the cream treatment troublesome dyspeptic symptoms (nausea, gas, acidity, etc.) often developed, frequently as severe as any the patients had ever experienced, and causing much discomfort and discouragement. This was probably due to the setting free of large amounts of fatty acids by gastric lipolysis. If the cream was persevered in these symptoms usually subsided, tolerance was established, and the diet was borne comfortably and contentedly.

The diversity of results characteristic of the treatment of gastric ulcer was observed in this series; some patients recovered, others were partially or temporarily relieved, some were unimproved. Some marked cases, including one with profuse repeated hemorrhages, progressed to good recovery, though two or three months or more of treatment, with many weeks in bed, were sometimes required to effect this result. The method is adapted to ambulant treatment, and seems a rational treatment for simple hyperchlorhydria as well as ulcer. It was also found to be of prophylactic service, as dyspeptic symptoms suggestive of recurrence of ulceration in treated cases usually promptly subsided after a few days' resort to cream diet. Although this series was too small for any very weighty deductions, the impression which I have formed of the results of the fatty diet has been favorable, and I believe that it is a rational and efficient method of dieting for gastric ulcer.

9. Hall, G. W.: Boston Med. and Surg. Jour., 1911, clxiv, 846.

Beginnings of Modern Medicine.—There is not a single development, even the most advanced of contemporary medicine, which is not to be found in embryo in the medicine of the olden time.—Littré, Introduction to the Works of Hippocrates.

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THE FOREIGN-BORN INSANE

A RACIAL STUDY OF THE PATIENTS ADMITTED TO THE INSANE DEPARTMENT OF THE PHILADELPHIA GENERAL HOSPITAL IN TEN YEARS (1903-1912)*

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PHILADELPHIA

I purpose briefly to discuss the question of the alien insane in the United States using for data the number of native and foreign-born who were admitted to the insane department of the Philadelphia General Hospital (Blockley) during the decade from 1903 to 1912, inclusive. I should perhaps state that Blockley is the county hospital of Philadelphia, and that to its department for the insane are sent all indigent persons living in the city who become mentally ill, except a few who are admitted to the psychopathic wards (separate from the insane department in a legal sense, though situated on the same piece of land), and later deported or transferred to other hospitals without passing through the insane department. The number received in the psychopathic wards and not later transferred to the insane department is not large enough to influence the percentage to any great extent; but as my statistics are made up from the admissions to the insane department alone, the number of foreign indigent insane in the city is a little larger than my figures indicate.

There are also in the city two semipublic hospitals for the insane which receive, for short periods, a few charity patients, few of whom, however, are foreigners. These institutions receive a somewhat larger number of patients who are able to pay for a short time, but who are finally sent either to the Philadelphia General Hospital or to a state institution. It is alleged, but I personally know of only a few instances, that occasionally the relatives of immigrants who become ill soon after coming here send them to private institutions and support them long enough to make it practically impossible to deport them, unless they or their relatives desire it, which they never do, and then have them transferred to a state institution or to Blockley. Though some of the foreign-born insane at Blockley pay some board, the amount paid is so small and the number who pay so few that practically all may be regarded as indigent.

There are doubtless some mistakes in the statistics I present, but none of them leads to serious error in the conclusions drawn. Thus fifty patients are recorded as having been born in Poland, the recorder seemingly being of the opinion that Poland still flourishes as a political entity. The real explanation is that persons coming from either Russian or Austrian Poland, and less frequently those from German Poland, speak of themselves as Poles, and of course racially are such. In a few instances a man is credited to the country of his birth, though he does not belong to any of the races native to the country in which he happened to be born, and in a few others the mother was of one country and the father of another, in which case the paternal country is recorded. Some European countries, notably Russia, Austria and Germany, contain many races. In the hospital records only the country of birth is recorded, not the race. Hebrews are not recorded as such in the admission book, but only in the individual histories. They are here credited to the lands in which they were born. No attempt is made in this paper to distinguish the different races in any country, but all persons born in Germany are regarded as Germans, those born in Russia, Russians, and so on. All the errors of all kinds combined do not influence in any way the main conclusion that a startlingly large number, 44 per cent., of the indigent insane in the Philadelphia General Hospital are foreign-born. I have no statistics as to how many of them are politically aliens, that is, not citizens. No data are obtainable as to how long many of them have been in this country; but quite a large number, especially among the Irish, English and Germans, have been here many years, while most of the Russians, Italians, Roumanians and Hungarians are recent acquisitions.

The figures on which the paper is based are as follows: The total population of Philadelphia in 1900 was 1,293,696, and in 1910, 1,549,008. The foreign-born population in 1900 was 293,669, and in 1910 it was 382,578, of which 193,994 were males and 188,584 were females. The percentage of foreign-born in 1910 was 24.7; of white native-born, 69.8, and of negroes 5.5. The negro population in 1900 was 62,613; in 1910 it was: males 39,431 and females 45,028, making a total of 84,459.

The total (sane and insane) foreign-born population in 1900 and 1910 is given in Table 1 (I have omitted countries from which no or only a small number of insane persons came). It is noteworthy that the number of Irish, English and Germans decreased in the ten years. The falling off in the number of Chinese is not hard to understand. All the figures were taken from the thirteenth census of the United States.

TABLE 1.—SANE AND INSANE FOREIGN-BORN POPULATION IN 1900 AND 1910

Countries	1900	1910
Austria	6,893	19,859
China	1,165	997
England	36,726	36,530
Germany	73,040	61,467
Hungary	2,781	12,459
Ireland	98,385	85,187
Italy	17,829	45,308
Japan	12	93
Russia	33,111	90,696
Scotland	8,477	9,174
Sweden	2,143	2,429
Switzerland	1,707	2,013

The statistics concerning the insane admitted to the hospital are as follows: During the years 1903 to 1912, inclusive, there were admitted 4,897 males and 3,849 females, a total of 8,746. Of these, 2,052 were foreign males and 1,837 foreign females, making a total of 3,889 foreign-born patients, which is 44.5 per cent.

The foreign-born insane (excluding countries sending only a few) came from the countries given in Table 2.

TABLE 2.—THE FOREIGN-BORN INSANE

Countries	Males	Females	Total
Austria	111	75	186
England	162	142	304
Germany	429	315	744
Hungary	58	50	108
Ireland	499	741	1,240
Italy	187	114	301
Poland*	26	24	50
Roumania	14	17	31
Russia	306	251	557
Scotland	30	42	72
Sweden	17	16	33
Switzerland	23	12	35

* This includes Austrian, Russian and German Poland. Many Poles are listed under the country in which they were born. The country of birth of the fifty is unknown. Most of them probably are Russians.

* Read at the meeting of the Philadelphia Psychiatric Society, May 9, 1913.

The classification by color is given in Table 3. All persons known to have negro blood are recorded as negroes, even though there may be a large admixture of white blood.

TABLE 3.—CLASSIFICATION BY COLOR

Races	Males	Females	Total
Caucasians	4,421	3,412	7,833
Negroes	457	437	894
Mongolians	19	0	19

I have not given the table showing the number of patients from each foreign country admitted to the hospital each year of the decade, because it is not of enough value; but I wish to make some quotations from it. The yearly figures would be of great value if we knew the yearly fluctuations in population, not during the last ten only, but throughout the last fifty years; but the only dependable statistics we have are those of the United States census, which is decennial. There is no way of finding out the racial character of the population year by year. The tables of arrivals of immigrants by ship is of no value, because an unknown number immediately move to other places, and, on the other hand, an unknown number come here from other parts of this country.

It must be remembered that insanity occurs not only in recent immigrants, but also in foreigners who have lived here many years, though I have been much impressed of late years by the number of recent young immigrants who become insane; but I have no data concerning the percentage. There is no close relation between the number of immigrants from any given country in any one year and the number of insane from the same country admitted to Blockley in that year. Some conclusions, however, can be drawn from the yearly tables. Thus there were 22 men and 13 women admitted from Russia in 1903; in 1912 there were 42 men and 28 women. The number varied in the intervening years, but on the whole the curve tended upward. There has been a pretty constant increase in the Russian immigration each year, and, since the death-rate is less than the number of new arrivals, there has undoubtedly been a yearly increase in the number of Russian residents, so that it is natural that the number of the insane should increase.

When we consider Italy we find that while the number of its people living in Philadelphia increased from 17,829 in 1900 to 45,308 in 1910, the number of admissions to Blockley varied greatly from year to year, the greatest number being 44 in 1907, and the smallest, 24, in 1908. In 1912 there were 41.

England and Ireland, which represent an older layer of immigration than Russia or Italy, have pretty flat admission curves for the decade. In both instances the insanity curve will probably soon begin to fall, and then fall rapidly, unless, which is improbable, there should be a new wave of immigration from these countries.

Hungary, considering the small number of its people living here, makes a very bad showing—108 patients. Of course, however, in interpreting these figures it must be remembered there is no way of determining what percentage of the Hungarians who have lived in Philadelphia during the past ten years have become insane, because we do not know how many have lived here in that time; we only know the number for the first and tenth, but not the intervening years. I suspect, but am not sure, that quite a number of Hungarians living in other parts of the state, and indeed of the country, are sent to Philadelphia by their friends as soon as they show signs of becoming ill. This, in a small degree, decreases the percentage of the insane Hungarians in other counties and states, and correspondingly increases the rate in Philadelphia. As the same data are lacking for all countries we can properly draw conclusions as to certain matters concerning all, and in doing so, Hungary does not stand well. Russia gives the greatest number of all foreigners, sane and insane, living in the city in 1910; Ireland ranks second, and Germany third. Of the foreigners in the hospital, Ireland gives the greatest number, Germany is second and Russia third. I do not think that from this one can draw the conclusion that the Irish, under altered conditions of life in a foreign country, are more prone to insanity than the inhabitants of the Russian Empire. In the first place, the numbers we are dealing with are entirely too small to be of any use in the study of the racial frequency of disease, and in the second place, many Irish have lived here long enough to suffer from senile insanities, while the Russian is a newcomer, and the majority of immigrants from that country are still young.

The frequency of insanity in a race in its own home may be very different from that occurring in the same race in a foreign country, so that no conclusion can be drawn from my figures as to the relative susceptibility of different races in their home environment. The figures in Philadelphia are too small in any event, and even if we had accurate statistics covering the entire country, it would not be justifiable to draw conclusions as to racial susceptibility, except under the conditions in which the different races are now living. For example, I am quite sure, though I cannot prove it mathematically, that I have seen a large number of young Russian Jews in whom the exciting cause of disease was the total change in their environment: homesickness, inability to speak English, living in a large city instead of a small town or the country, the hurry of life and the intensity of work all act as exciting causes. Many of these persons, I believe, could, at home, have passed through life escaping all mental disease. It is, therefore, quite possible that the insanity-rate is higher among the Russian Jews here than in Russia. I am entirely incompetent to express an opinion as to whether or not the alleged persecution of Jews in Russia takes the place of the exciting causes of insanity existing here, and keeps the frequency of occurrence at the same level in both countries. Several races seem, however, to be mentally and emotionally much more adaptable to American life than the Russian Jew.

The important question for us as a nation is whether we should let things continue as they are or should do more than is being done to keep out the insane and to return to their native countries aliens who become insane. We are told by gentlemen who make political speeches in parts of the country in which there is a large foreign voting element that our national digestion is so strong that no evil can come by keeping our doors wide open for everybody. We hear much about being a haven for the oppressed, etc. We are told by the pessimists that we are "going to smash anyway," so there is no use doing anything. We are told by the disciples of "the uplift" that if we only send everybody to school and have plenty of laws to lift everybody up all evil will disappear. Probably none of these statements is true. Whether we can digest the foreigners or not, there is no reason why we should make our burden any heavier than we must. It is our duty to take care of the naturalized foreigner if he becomes unable to care for himself; it is his right as a citizen.

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That we owe such duty to the alien no one believes, save those persons who have become so modern as to believe, and not only profess to believe, that it is our duty to relieve other people of their duty, a kind of morality which to the old-fashioned seems highly immoral and ultimately leading to degeneracy of the helped. If, however, an alien has been here for some years, has worked, and has in a sense become one of us, we ought, I presume, to care for him. To-day he cannot be deported if he has been here only a few years. Surely it would be better to deport all aliens who become insane within five years of their arrival, no matter what the cause.

I am told, whether correctly or not I do not know, that this would necessitate the abrogation of treaties with several countries; but if it be true, certainly we —who abrogated a treaty with Russia simply because she claimed the right of deciding what persons could pass her borders, a right which we ourselves claim and rigidly enforce when we want to, professedly on the highly sentimental ground that a certificate of American citizenship should open all doors—would be justified in abrogating treaties which compel us to take care of the mental wreckage properly belonging to other countries.

It is sometimes stated, but not proved, that since insanity is no more frequent among the foreigners than among the native-born we are no worse off by admitting and keeping them than if we refused to receive and expelled them. After all, it is said, healthy foreigners, by building up the country, pay for the upkeep of their insane. If it were not easily practicable largely to exclude the insane and degenerate, then of course it would be better to admit them than to prohibit all immigration. But that is not the question, because it is entirely possible to welcome the one while excluding the other. The fact still remains, no matter how much we may try to forget the inevitable effects, that in Philadelphia a foreign-born population of 24.7 per cent. supplies 44 per cent. of the indigent insane, and the same proportion approximately is found in all large asylums in all parts of the country to which immigrants go in large numbers.

1918 Spruce Street.

A CASE OF MULTIPLE SEROSITIS AND REPORT OF NECROPSY

WITH REMARKS ON TWO CASES, APPARENTLY EARLY INSTANCES OF THE SAME CONDITION

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PHILADELPHIA

Of the many names that have been proposed for the condition discussed in this report, we have selected "multiple serositis," because it is descriptive and at the same time sufficiently short and convenient for practical purposes. A. O. J. Kelly, whose contributions on this subject are among the best in American literature, preferred the Greek term polyorrhymenitis (πολύς many + ὀρρός serum + ὑμήν, membrane). "Malignant inflammation of serous membranes," or "Concato's disease," is open to criticism on account of the conventional association of the word "malignant" with a cancerous process; while some of the other designations, particularly "general chronic perihepatitis," "sugar-iced liver" (*Zuckergussleber*—Curschmann), "pericarditic pseudocirrhosis of the liver" (Pick's disease) are not sufficiently comprehensive and lay too much stress on the hepatic and pericardial features, to the neglect of the other serous membranes.

A convenient working classification divides the cases into (1) those exhibiting chiefly perihepatitis (Curschmann's *Zuckergussleber*), in which the peritoneum as a whole is the primary seat of disease; and (2) cases beginning as a pericarditis, in which the process spreads later to the peritoneum and may or may not involve the covering of the liver (Pick's pericarditic pseudocirrhosis, adherent pericardium). Clinically it is not usually possible to determine which organ was the primary seat of disease. In the case here reported, the pleural and peritoneal cavities were both extensively involved and there was also adhesive pericarditis. The symptoms, however, were predominantly cardiac, during the entire course of the malady, which extended over three years, and although this was in part owing to degenerative cardiovascular changes not necessarily connected with the serous membrane inflammations, the case may be classified in the pericarditic group. The report of the case follows:

History.—J. G., an unmarried Irish blacksmith, aged 43, was admitted to the wards of the Philadelphia General Hospital, Oct. 10, 1912. The chief complaint of the patient on admission was shortness of breath, cough, and swelling of the legs and abdomen. The patient bore all the marks of an alcoholic, and admitted having been a heavy drinker. He had had measles, mumps, whooping-cough and small-pox. Eleven years before admission he had had an attack of rheumatism. Gonorrhea had been contracted about fifteen years before admission, and syphilis at some earlier time. No information of importance in regard to the family history was obtained. During the past thirteen years the patient was treated in the Philadelphia General Hospital eight different times, but had not, prior to the last admission, come under our observation. The dates of admission and discharge, and the recorded diagnoses, are as follows:

Jan. 5, 1904, to Feb. 1, 1904: Inflammation of penis and prepuce.

April 5, 1904, to April 11, 1904: Alcoholism.

Oct. 8, 1909, to Nov. 15, 1909: Pulmonary tuberculosis.

May 4, 1910, to June 28, 1910: Acute gastritis.

October 4, 1910, to June 26, 1911: Aortic regurgitation; mitral regurgitation; specific aortitis.

Sept. 8, 1911, to Sept. 27, 1911: Hepatic cirrhosis with ascites.

Oct. 9, 1911, to June 13, 1912: Aortic valvulitis; relative mitral regurgitation; cirrhosis.

Oct. 9, 1912, to Nov. 20, 1912: Multiple serositis and hypertrophic cardiac dilatation; aortic aneurysm or dilatation, relative aortic incompetence.

On admission to our service Oct. 9, 1912, the patient was orthopneic and markedly cyanotic. The abdomen was much distended with fluid, the legs and scrotum very edematous. The appetite was poor and the bowels were constipated. The patient complained of distress after eating, as if "all the food he took remained in the upper part of his belly." It seemed necessary to give prompt relief, and accordingly a trocar and cannula were inserted at the level of the umbilicus, about one inch to the right of the median line; the point for puncture being indicated by palpation which showed many adhesions and thickenings in the regions in which puncture is more usually made. One gallon of lemon-yellow and somewhat cloudy fluid was withdrawn. Microscopic examination of

this fluid showed chiefly lymphocytes, with a few endothelial cells. The tapping greatly abated the difficulty of breathing, and the patient was enabled to lie down for the time being.

Examination.—The patient is well developed and well nourished. The skin is cool and moist; the face is bluish. The pupils are equal, regular in outline and react normally to light and accommodation. The tongue is slightly coated and shows a fine tremor when extended. The ears and lips are deeply cyanosed. The external jugular vein on the left side is very large and tortuous; the right is also tortuous but smaller; there is no visible venous pulsation. The chest is fairly well developed. There is some flattening on the right side.

The upper border of the heart is in the second interspace; the right border 1.5 cm. to right of sternum; the left border 2 cm. to left of midclavicular line; the lower border extends to the sixth interspace. The apex-beat is neither visible nor palpable. At the apex, the first sound is of good muscular quality and quite clear; the second sound is replaced by an indefinite murmur. At the aortic area, the first sound is accompanied by a very faint murmur; the second sound is accompanied or almost entirely replaced by a loud ringing and churning murmur, transmitted downward along the sternum, more clearly on the right than on the left. An area of dulness is demonstrated over the upper portion of the sternum from the clavicular junctions to the upper border of the heart, extending on the left to the parasternal line. No thrill is detected. The pulse is of the water-hammer type, with fair force and volume; the tension of the artery is only moderate; but sclerosis of the wall is evident. The capillary pulse is visible in the nailbed.

Anteriorly, on the left side of the chest, the inspirations are labored and harsh, as though there were some pressure on the bronchi. The expirations are prolonged and of a bronchial character. Occasionally squeaking sounds are heard. The percussion note is impaired. As far as the third rib on the right side, the breath-sounds are the same as on the left, below that point and in the axillary region of the same side, inspiration is harsh and accompanied by numerous moist râles of all sizes. Expiration is of the bronchial type. Both vocal resonance and fremitus are exaggerated, and the percussion note is dull. Posteriorly, on the left side, there are a few small moist râles in the lower part of the lung. Below the ninth rib the breath-sounds are absent. Over the angle of the left scapula vocal resonance and tactile fremitus are more easily detected than at the corresponding area on the right side. The resonance of the left lung is slightly impaired. In the right lung there are numerous crepitant and subcrepitant râles, beginning a little below the apex, and extending as far down as the eighth rib. Below that point the breath-sounds are absent and there is flatness on percussion. Vocal resonance and tactile fremitus are absent over the flat area; both are exaggerated where the râles are most numerous, especially at the inner border of the scapula. The percussion note is impaired above the flat area.

The abdomen is very much distended. Liver dulness extends from the fourth interspace to about two inches below the costal margin in the midclavicular line. Flatness on percussion (fluid) begins about 1½ inches above the umbilicus. The scrotum is very edematous. The lower extremities are greatly swollen and pit on pressure. The skin of the legs is reddened.

Course of Disease.—Soon after the tapping made on admission, the ascites recurred. October 22 the abdomen was tapped a second time, and 5 pints of fluid were withdrawn. October 24 the right side of the chest was aspirated, and 11 ounces of fluid were obtained. The first half of the fluid was of normal color; the second half was almost pure blood.

The temperature oscillated between 97.6 and 100 F.; the pulse-rate varied from 72 to 100; the respirations were 20 to 35. The urine showed nothing abnormal. The fluoroscopic examination showed considerable enlargement of the cardiac shadow, with a pulsating shadow above the heart, corresponding approximately with the dull area noted at the top of the sternum.

The patient's general condition remained about the same, with slight "ups and downs," and little, if at all, influenced by drugs for three weeks after admission. November 1 a chill occurred, followed by rise of temperature and pain in the right side of the chest. The temperature reached 102.6 F. Local applications relieved the pain. The next day percussion showed that the area of dulness over the right lung had extended to the angle of the scapula. A needle was inserted at this point and a few drops of blood were obtained, but nothing else. At the same time a third tapping of the abdomen 2 inches below the umbilicus and 2 inches to the left of the median line, yielded a quart of bloody fluid. The dyspnea was somewhat relieved by this procedure. About two weeks later a trocar and cannula were again inserted 2 inches below the umbilicus in the median line, and only a few drops of blood withdrawn. After removal of the cannula the opening bled quite freely.

Fever of an irregular type persisted all this time. The patient's general condition became steadily worse; he took less nourishment and rested badly. Cyanosis and dyspnea could not be materially relieved, although oxygen palliated them somewhat. Pulse, temperature and respiration continued irregular until death, which occurred suddenly on November 20.

Necropsy.—Dr. Aller G. Ellis found the following pathologic conditions:

The body is that of a well-nourished adult man. Rigor mortis is present. There is great edema of the lower extremities.

The abdomen is markedly distended and contains about 500 c.c. of grayish turbid fluid. The peritoneum shows numerous adhesions, between coils of the intestines and the abdominal wall. Most are recent and are easily separated. Some adhesions, especially around the cecum, are older. The liver projects 5 cm. below the costal margin; its capsule is thickened and presents the typical "sugar-ice" appearance. The chest is a mass of adhesions which includes both pleurae, except a little of the upper part of the left, the pericardium and the mediastinal tissues. The pericardial cavity is entirely obliterated by firm adhesions. The right pleural cavity is also obliterated.

The heart is greatly enlarged, particularly on the left side. The left ventricular wall is 2 cm. thick; that of the right ventricle, 1 cm. thick. The muscle is rather pale and quite firm. The endocardium is grayish; the auriculoventricular valves show no notable change. The coronary arteries are moderately sclerotic. The aorta is entirely involved by necrotic, calcareous and atheromatous patches; the valves are incompetent. Just above the aortic valves is an aneurysm 4 cm. in diameter, which bulges about 3 cm.; at its apex is a further dilatation 1 cm. deep and 1.5 cm. wide. Above this, involving the great branches of the arch, is a second bulging, smaller and less sharply defined than the first. The pulmonary artery is atheromatous; the valves are not affected.

The left lung is markedly reddened. It is filled with serum. At the base it is tightly adherent and was torn in removal. Over the lower part of the upper lobe is a slight fibrinous exudate. The right lung shows a greatly thickened pleura. At the base, between it and the diaphragm, is a cavity bounded by greatly thickened brownish-red pleura, which is rough on the internal surface. It is partly filled with bloody fluid. The lower lobe of the lung is atelectatic. The upper lobe is reddened and contains an excess of serum.

The spleen is 16 cm. long, firm, dark red on incision, and contains an excess of blood. The left kidney is large; the capsule tense. When it is stripped, a granular surface appears; the incised surface is dark bluish-red, and blood drips from it. The cortex is not notably changed. The right kidney has a similar appearance. The ureters and bladder show no gross lesions. The stomach shows a dark red discoloration of the mucosa, particularly intense toward the pylorus. The liver is a rounded organ, 26 cm. long, 17 cm. wide. The capsule is very greatly thickened; at points it is cartilaginous in consistency. On incision the parenchyma presents a "nutmeg" appearance; also grayish areas of fibrous

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proliferation. The gall-bladder is not discernible. The pancreas shows no gross lesions.

Pathologic Diagnosis.—Hypertrophy of right and left ventricles of the heart; chronic adhesive pericarditis; atheroma of the aorta with multiple aneurysms; bilateral chronic adhesive pleuritis; acute fibrinous pleuritis in the left side; loculated hemorrhagic pleuritis at the base of the right lung; atelectasis of the lower lobe of the right lung; congestion of the spleen; cyanotic induration of the kidneys; congestion of the stomach; red atrophy and cirrhosis of the liver; chronic productive perihepatitis; chronic adhesive peritonitis, with added acute fibrinous peritonitis.

In regard to the etiology of multiple serositis it is worth noting that frequent association with arteriosclerosis and chronic interstitial nephritis has been observed. In view of the wide distribution of the lesions, affecting several or all of the serous membranes, the condition has been ascribed to the action of a toxin, analogous to that of anemia. On the other hand, a variety of pathogenic organisms, including, among others, *Bacillus typhosus, B. tuberculosis, Plasmodium malariae and Spirochaeta pallida,* have been held responsible. Association with tuberculosis has been noted frequently. The case presented might be cited in support of the theory of the syphilitic origin of multiple serositis. It is to be borne in mind, however, that the condition is essentially a terminal phenomenon, occurring usually in patients who have suffered for years from grave organic disease, and the existence of syphilis, tuberculosis or any of the other common diseases, might reasonably be viewed as a coincidence or as a predisposing condition rather than as the efficient cause of the specific changes in the serous membranes. Pathologically, the case presents most of the features that have been described as characteristic, and, as has been stated, may be assigned either to the peritoneal (perihepatic) or pericardial (adhesive pericarditis) group. The condition of the aorta is probably the result of syphilitic aortitis, and does not seem to be an essential feature of the polyorrhymenitis.

The affection, however, is not always a late development. Not far from the time that this case was under observation one of us (S. S. C.) had under care at the Jefferson Hospital a girl of 10 or 11 years who had developed, following scarlet fever, a tendency to recurrent exudations into the pericardium, pleurae and peritoneum. There was not sufficient impairment of the heart or kidney to support the diagnosis of passive effusion, due to failure of circulatory or excretory function. Both spleen and liver were enlarged and tender; there was hyperleukocytosis. Roentgen-ray examination showed enlargement and deepening of cardiac shadow and a dense mass of abdominal shadows, obscuring all details. Tuberculosis could not be excluded positively; neither could it be demonstrated beyond cavil, although the Moro test gave an affirmative result. The beginning of the exudative period was accompanied by fever, which subsided as the physical signs of fluid became marked. A period of prolonged quiescence occurred under treatment and the patient was removed from the hospital and the city. Her present condition is unknown.

Later, in the service of one of us (S. S. C.) also at Jefferson Hospital, a man of middle age, admitted with typhoid fever, developed inflammatory pleural and peritoneal effusions, which necessitated tapping, and which recurred twice during the prolonged convalescence. The liver, spleen and heart gave no evidence of involvement.

It is possible, even plausible, that these two cases—of which fuller report will be made later—represent one of the modes of origin of multiple serositis; namely, as an epiphenomenon of infections; but under what exciting conditions, in the absence of a recognized specific organism, it is difficult, if not impossible, to say.

A further allusion may be made to the remarkable condition of the aorta in the subject of the main report of this paper. Dulness over the upper part and to the left of the sternum, with the peculiar churning murmur heard in this region, led to the suspicion of aneurysm or of considerable aortic dilatation with a relative insufficiency. This opinion was confirmed by the large pulsating shadow shown on the fluoroscopic examination; but the multiplicity of the aneurysmal sacs was not suspected.

525 Walnut Street—1716 Locust Street.

SIGNED CONSENT TO A NECROPSY A CONDITION TO ADMISSION TO OUR HOSPITALS

A BRIEF ACCOUNT OF TEN YEARS' EXPERIENCE IN THE PHIPPS INSTITUTE OF PHILADELPHIA

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PHILADELPHIA

The following account has been written to show how one hospital has solved the problem of the need of American hospitals for more necropsies, discussed recently by Theodore C. Janeway.[1] Whether or not the plan of requiring a signed consent to a necropsy in case of death is feasible for all hospitals, I am not prepared to say. I do feel, however, that the plan can be adopted far more generally than is at present thought possible, if the medical profession as a whole will take a more active interest in the matter.

It is an undeniable fact that far too many of the attending physicians and surgeons in our hospitals are lukewarm in their attitude toward this question, while most physicians without hospital connections take little or no interest at all. For those who are interested both in the advancement of the art of medicine and in the more thorough equipment of our students, it is rather discouraging to learn from the figures quoted by Dr. Janeway that, with three or four exceptions, only from 4.8 to 24.5 per cent. of the dead in our institutions are examined post mortem. The handicap under which American investigators and teachers labor is made more apparent when it is realized that in Germany and Austria the percentage of necropsies ranges from 77 to 99.9; in England from 71.9 to 85.9, and in the two great hospitals of Montreal from 62 to 86.4. As Dr. Janeway has well said, there is "no factor at the moment which operates so strongly to discourage careful clinical investigation in the wards of our hospitals as the probability that for three-quarters of the patients studied, the results will be lost in the case of death by failure to secure an autopsy."

It was just this realization of the situation that led to the adoption of compulsory necropsies in the Phipps Institute at the time of its organization ten years ago. The first director, Dr. Lawrence F. Flick, realizing that

1. Janeway, Theodore C.: The Great Need of American Hospitals: More Autopsies, Med. Hosp., October, 1913.

the staff of the institute would have to be trained in the diagnosis of diseases of the chest, and that a thorough study of the pathology of tuberculosis was possible only through the performance of as many necropsies as possible, made admission to the wards of the institute conditional on the signing of a blank reading as follows:

I, ———, being the nearest responsible relative of M ———, in consideration of treatment and care at the Henry Phipps Institute, for the Study, Treatment and Prevention of Tuberculosis, do hereby grant permission to the medical staff, in event of death at that institution, for a necropsy.

I will also be responsible for the removal of the body.

Witness ..... Signed .....
Address ..... Address .....

The accompanying table shows the number of patients treated in the wards, the number of deaths and the number of necropsies.

HOSPITAL PATIENTS, DEATHS AND NECROPSIES

	In Hospital	Deaths	Necropsies
1903	238	54	53
1904	234	80	80
1905	197	60	60
1906	205	69	69
1907	227	80	78
1908	195	53	53
1909	225	76	75
1910*	108	51	49
1911	122	40	38
1912	121	42	40
	1,872	614	604
			or 98.37 per cent.

* The decrease in the number of patients and necropsies is due to the fact that in the spring of 1910 the bed capacity of the institute was reduced from 52 to 24, with 2 emergency beds.

In the ten cases in which no necropsy was held, it may be said that the right to do it was not waived because of objections raised after the death of the patient. In but one instance was there any probability that the family would have tried to resist the institute in the exercise of its rights.

For the first seven years the institute maintained fifty-two beds for advanced cases only. In the spring of 1910, when it was transferred to the University of Pennsylvania, the number of beds was reduced to twenty-four with two emergency beds. Finally, when the new Phipps Institute was opened in May, 1913, but half the twenty-four beds were devoted to advanced cases, the other twelve being used for incipient cases.

Although there is little likelihood of any of the latter patients dying in the institute, the same requirement is exacted for admission to the incipient as to the advanced ward. Even in the case of patients admitted but for a few days for some special treatment the necropsy blank must be signed.

The question naturally arises: To what extent has the signing of the necropsy blank militated against persons entering the institute? With the possible exception of Jewish patients, it practically has had no influence whatever. While no record has been kept of families who refused to allow a relative to enter the institute on account of this requirement, I can safely say that the number of refusals has been negligible and that there has never been a time when there was not a waiting list.

11 South Twenty-First Street.

Etiology of Mental Disease.—The problem of the causes of mental diseases is perhaps the one most subject to the influence of prejudices on account of its still being wrapped in obscurity and because it involves the vexed enigma of the relation between mind and body, between consciousness and organic cerebral processes.—Lugaro, Problems of Psychiatry.

COUGH-DILATATION TIME A MEASURE OF HEART FUNCTION

PRELIMINARY NOTE *

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For a number of years I have been an exponent of the light percussion method of outlining the heart borders. On one occasion, after having carefully outlined the heart of a patient in bed, who was suffering with a marked degree of cardiac insufficiency, and having drawn on the chest-wall a projection diagram, I was interrupted for a few minutes; and then I returned and repeated the procedure. To my surprise, I found that the outline had changed, and that the right heart border was pushed out 2 cm. Investigation as to the cause of this phenomenon showed that the patient had coughed rather violently in the interval, and in so doing had dilated the heart. This patient I regarded then as having a most interesting and unusual case of heart weakness. A number of my colleagues, who, like myself, were interested in the light percussion method, were brought in to see this case, and concurred with me as to the existence of *cough dilatation*. The dilatation reached its maximum after three cough efforts, and in this particular case lasted five minutes, during which time there was a gradual return to the original outline.

For some time I believed that this case, and similar ones which I found subsequently, were extreme cases of cardiac weakness. I discovered them in a colored service made up largely of cardiorenal cases. This view, in the light of subsequent work, I no longer hold, but have come to look on the procedure of outlining the heart by percussion or roentgenoscopy before and after cough, timing the return to the original size of the outline, as a most valuable index of the integrity of the heart muscle. The healthy heart dilates on coughing to a degree perceptible during Roentgen examination, but not appreciable by percussion. The time factor is quite as important as the measurement of the outward displacement of the right heart border. The graver the heart weakness, the longer the dilatation lasts. The longest cough-dilatation time observed so far has been fifteen minutes, and the shortest five seconds. This statement is based on careful examination of over one hundred cases. It is probable that this range of cough-dilatation time will be extended on further observation.

It is evident that any effort (such as straining at stool, sneezing or other expulsive respiratory effort) which involves the closure of the glottis, and a more or less prolonged straining with the muscles of forcible respiration, raises intrathoracic pressure, and narrows every radicle of the pulmonary artery. The resistance is thus increased, and the response of the heart muscle to this purposely set task of coughing is observed in a rapid cough-dilatation, after which the heart may either return immediately to its normal size, or the cough-dilatation may last fifteen minutes.

I have often found that patients who could not be taught to cough vigorously could be made to bring about the same result by holding the nose and trying to force out the breath with the mouth closed. This pushes out the borders of the whole right ventricle very promptly, and accomplishes what the three successive coughs do,

* Presented before the Mississippi Valley Medical Association, at New Orleans, Oct. 24, 1913.

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and in less time. This effort, similar to horn-blowing, the patient makes readily, and the timing of cough-dilatation may commence as soon as free respiration begins again.

A search through the literature fails to reveal a single test of heart function which involves a systematic observation of the heart-change resulting from a designed alteration in the resistance in the pulmonary circulation. Either percussion, orthodiagraph, ordinary fluoroscope or roentgenograph may be used to determine the variations in the position and shape of the heart borders during cough-dilatation. The left heart border also is to be observed before and after coughing, and the outline changes as does the outline of the right heart border, but returns to resting position a few seconds earlier. This phenomenon of the pushing out of the left border is due, I believe, entirely to the dilatation of the right ventricle. In practice it is hardly necessary to observe the cough-dilatation time on both heart borders, the observation of the right being quite sufficient. There are some practitioners, however, who find difficulty in percussing the right heart border, and who seem to be fairly successful in outlining the left. These might find it necessary to make observations entirely on the left heart border, but would have to bear in mind that there would probably be some cases of moderate dilatation (that is, moderate heart weakness), which would be missed if the changes in position of the right border during the cough-dilatation time were not studied along with those of the left.

Timing the duration of these changes is the most important observation. In addition, by auscultation at the second left interspace after coughing, a variation can sometimes be detected in the intensity of the second pulmonic sound during cough-dilatation. This variation has not been studied thoroughly, but will probably be found to vary as does the blood-pressure in Katzenstein's test of the left ventricle (simultaneous digital compression of both femoral arteries just below Poupart's ligament). The effect on pulse-rate is also a subject for future work.

The actual distance from the midsternal line that the heart borders are pushed outward by cough or by the horn-blowing procedure I at first regarded as the most important phase of the test; but I now look on the reaction time (cough-dilatation time) as the most important single factor. As I now use it, the test consists in measuring the horizontal distance between the resting position and the heart borders after cough or after forcing the breath, as in horn-blowing, together with the time necessary for the heart to return to resting position after cough-dilatation — that is, reaction time.

I do not expect corroborative results from any one who does not use the light percussion method. I do not believe that it is possible to obtain correct heart outlines, except through using the lightest percussion blow with the minimal force necessary to produce sound waves over resonant structures. One who uses heavy percussion must fall back on the orthodiagraph or fluoroscope in studying the cough-dilatation time.

The advantages of this method are its simplicity, the ease with which it can be done, and the fact that elaborate, costly apparatus is not necessary in order to carry it out. A watch, preferably a stop-watch, a skin-pencil and a centimeter tape-measure constitute all the apparatus necessary.

While it cannot be asserted for any procedure which brings on a dilatation of the right ventricle that it is absolutely free from danger to the patient, the three successive coughs, or a single horn-blowing effort with mouth closed, sufficient in my experience to bring on maximum dilatation, have never caused any disastrous results to the patient. These three coughs given at a word of command hardly call for more effort than the patient himself makes innumerable times without direction from the physician.

As to the surgical aspects of this test, it would seem from present knowledge that it would be hazardous to operate under general anesthesia on a patient who had a cough-dilatation time as great as five minutes. Further investigation will probably force the conclusion that the danger-line lies considerably below five minutes. I have seen several safely operated on who showed positive cough-dilatation, but whose cough-dilatation time was less than one minute. Some one has tersely remarked that it is not the patient with known cardiac disease that dies from anesthesia, but the one in whom it is not suspected. The use of this test during the examination previous to operation will, I believe, help to put into the "known" category some cases that ordinarily would escape the usual methods of heart diagnosis.

From the point of view of therapeutics, this work shows wherein lies one of the grave dangers to the cardiac patient. Dilatation can be demonstrated coming on in a very weak heart after a single act of coughing, and after any muscular effort performed with the glottis closed, such as lifting, stooping, straining at stool, getting into and out of bed, blowing a wind instrument, etc. With the exception, perhaps, of cough, all of these are comparatively easy for a cardiac patient to avoid. Cough in cardiacs must be treated, if the strain on the right ventricle is not to be multiplied indefinitely. The study of these various cough-dilatation phenomena suggests the inference that here is to be found the chief explanation of the benefit derived from opiates in cardiac insufficiency.

I am not of the opinion that in this test we have arrived at the Ultima Thule of heart investigation, or that it will prove more useful than any of the other tests hitherto devised; but I do believe that it will be found to supplement the tests of the left heart already known, and that in a number of cases it will be the first obtainable sign of heart weakness. If one can obtain an approximate idea of the integrity of the heart muscle in a ventricular wall, it may be fairly assumed that the other portions of the heart will show the same proportion of normal fibers.

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A RAPID METHOD OF ISOLATING PATHOGENIC STREPTOCOCCI FROM CONTAMINATED FIELDS

LOUIS L. TEN BROECK, M.D.
MINNEAPOLIS

The work of Sabouraud in demonstrating the streptococcus in skin lesions, the bacteriology of which had been misconstrued; the researches of Rosenow, Hamburger, Capps, Davis and others in giving this germ an important place as a causative factor in epidemics; Billing's writings on the remote effects of focal infections; Rosenow's contributions to the study of rheumatism, and his interesting experiences in the mutability of the streptococcus when grown under varied conditions, have greatly increased the importance of study of this organism and especially stimulated study in methods of isolation and

differentiation. Notably among these are the studies of Gordon, Walker and others in fermentation tests, and Ruediger's suggestion of differentiation by hemolysis.

For a long time there has been wanted a method of rapid isolation of this germ from such badly contaminated fields as the nasal and respiratory passages, neglected phlegmon, etc., which at the same time would clearly establish its pathogenic properties in a way that morphologic or cultural phenomena could only indirectly accomplish.

My attention was first drawn to this subject during a friendly discussion with a well-known rhinologist who was removing a turbinate for the relief of an intractable asthma. It was argued that persistent nasal infections were far more frequently streptococcal than supposed; that asthmatic complications were in part at least a condition of allergy in which the streptococcus took a very prominent part, and that the reason why this germ was overlooked was because of deficient bacteriologic technic. It was agreed to call in a competent bacteriologist for the usual cultural examination and at the same time attempt to devise a method for the demonstration of the streptococcus. Accordingly the bacteriologist reported only the *Micrococcus catarrhalis*. The special technic devised was based on the following principles:

1. Use of liquid mediums as suggested by Sabouraud.
2. Extreme susceptibility of rabbits to streptococci.
3. Peculiar reaction and vulnerability of the peritoneum to streptococcal infections as described by Murphy. It was thought that by grading the dose the peritoneum would fall a prey to the streptococcus even before the other pathogens took hold, and that a certain point of the disease would be reached when there would be the characteristic dry peritonitis or retroperitoneal cellulitis. Intraperitoneal injections of from 2 to 5 c.c. of fresh bouillon cultures of a mixed growth (obtained by dropping the thoroughly washed resected bone into bouillon) were made every two or three hours. At the earliest signs of sepsis the animal was chloroformed and a dry peritonitis was found yielding pure and intensely virulent cultures of streptococcus.

The vaccine prepared by the bacteriologist was impotent. That from the peritoneal exudate was not only helpful in the asthmatic condition, but reduced the blood-pressure from 175 mm. to 145 mm. This method has been used in four cases of subcutaneous infection, in all of which the diversified bacteriologic flora had misled the attendants and in which the method not alone promptly cleared up the diagnosis but was made the basis for proper immunologic measures that provoked a very gratifying response.

I believe that in these cases, in all of which the usual measures had been exhausted without relief, this method saved a human life. In another case there was a fatal issue. This patient died before a diagnosis even was established.

It is not suggested that this method be used to the exclusion of others. It is to be used in conjunction with other approved methods. Neither is it to be expected that there will always be a pure streptococcic culture to the exclusion of other pathogens, but the peculiar reaction will help establish the diagnosis; and the more virulent the streptococcus, in which case greater haste and certainty is demanded, the more certain will be the result. In persistent postnasal infections, I have been able to find this germ by first using negative pressure to draw from the deep sinuses, and then, having the patient swallow (to isolate the posterior nares), I have changed from negative to positive pressure, opening the other nostril. A stream of air in this way is forced into one nostril and out of the other and can be directed into suitable mediums. The colonies on solid mediums are for the most part discrete and are derived from the posterior nares just as well as from the anterior, a result impossible to attain by any method requiring use of a swab.

Since writing the foregoing, I find that Cole has used a similar method in isolating the pneumococci from sputum, injecting the same intraperitoneally into a rat, which animal meets the needs of the pneumococcus better than any other. Rabbits are usable, however, and as a rule are more readily obtainable. The method is therefore not a new one, but it can be applied in any laboratory, and its use will undoubtedly unmask the real bacteriologic cause of virulent or persistent infections, and with the present status of immunotherapy will also not infrequently assist in effecting a cure.

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CHRONIC MALIGNANT DEGENERATION OF THE THYROID

WITH REPORT OF CASE

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OSAWATOMIE, KAN.

Malignant degeneration of the thyroid is not uncommon in itself. Both sarcoma and carcinoma occur in this gland with such frequency that the subject of malignancy as a whole affecting this structure would cover a very wide scope. There have been noted, however, certain cases of malignancy of the thyroid pursuing a remarkably chronic course, of which very little has been written, so far as I have been able to determine from a reasonably painstaking search of the literature of the past few years.

This unusual type presents some striking variations from the ordinary types of malignant change in marked aberrations from the usual trend of malignant neoplastic growths of the same general character in other anatomic locations, and a behavior of morbid tissues at variance with that of the same cell type under similar conditions of proliferative excitation in tissues in close physiologic and anatomic relationship to the thyroid. This peculiarity seems to be confined to a certain type of growth springing from the epithelial or glandular elements of the thyroid and is not manifested in the various sarcomatous degenerations that affect it.

From time to time mention has been made of the unusual chronicity of certain types of malignant adenoma of the thyroid by various writers. This feature of extreme chronicity in carcinomas of the glandular type in a gland of such actively secretive and metabolic importance as the thyroid, with its unusually ample blood and lymphatic supply, constitutes an anomaly that may, so far as I am aware, be accounted for only on hypothetic grounds.

Whether this unusual chronicity may be attributed to an inhibitory influence of the normal colloid substance of the gland, or to the iodin content of the gland secretion, or to some peculiarity inherent in the parent tissue cell, has not so far been clearly determined; yet the phenomena of neoplasms of the adenocarcinomatous type extending over periods of from five to fifteen years is occasionally noted. The pronounced tendency of thyroid malignancy to metastasize in the osseous structure and the frequent extremely slow course of their devel-

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opment in these locations tends to strengthen the hypothesis that in the peculiarity of the cell itself or in that of its complex secretions we may find the solution of the problem of this chronicity.

It being a well-defined law applicable to all neoplasms that metastases must partake of the cell form and structural characteristics of the parent growth, the inference by analogy is that they must also conform in rate of growth and development with that of the primary tumor.

It has been stated that great difficulty is frequently encountered in the microscopic determination of the nature of these growths because of the alteration of tissue by infiltration of connective tissue or chronic inflammatory changes that so obscure the findings that many fields and many sections must frequently be examined before anything resembling adenomatous structure is discovered. This may doubtless account for the various departures from the ordinary nomenclature in relation to the gross or microscopic appearance of these growths in the reports of various writers.

We may thus construe the "iron-hard struma" of Reidel as a carcinoma of atypical form, its ligenous character dependent on connective-tissue infiltration, while the "chronic malignant strumitis" recently reported by Meyer[1] might be accepted as a type of carcinoma or other malignant field on which some inflammatory process, bacterial or toxic, has been engrafted.

Perhaps the most interesting phenomenon in connection with these cases of chronic malignant change is that we are forced to the assumption of the ability of the neoplastic cell to assume the secretive function of the normal glandular structure. This assumption has its support from the fact that in careful microscopic examination of certain of these glands when the patient had exhibited no symptoms of thyroid insufficiency, no traces of glandular structure even remotely approaching normal could be found.

Von Bergmann reports a case in a man past 40 in whom, after removal of the thyroid for carcinoma, symptoms of myxedema promptly appeared, continuing until a recurrence, when they gradually subsided as the recurrence became more marked. Two years later the entire growth was removed because of pressure symptoms, when tetany immediately developed.

Von Eiselsberg reports a similar case with identical symptoms following a primary and secondary operation.

While this must be accepted as presumptive evidence that neoplastic cells may take on the function of actively secreting structures, thereby invalidating the definitive clause applying to neoplastic growths "without function," it is not conclusive, as we cannot feel assured that aberrant parathyroids were not removed in the second operation. This, however, does not alter or modify the significance of the phenomenon of myxedema developing on the primary extirpation of the gland, with the subsidence of symptoms on the development of metastases.

The clinical features of the case which I shall report confirm in a measure the observations of von Bergmann and von Eiselsberg in so far as they relate to the systemic disturbance incident to the removal of the primary tumor.

REPORT OF CASE

The patient, J. E., farmer, aged 50, born in England, came to America as a boy. Family history is negative as to tumor growths, goiter, tuberculosis or syphilis; father, six brothers and four sisters are living. Patient has always been healthy though never robust; thinks he has had the common diseases of infancy, but no illness or injury since attaining manhood. He denies any form of venereal infection. At the age of 15 he noted a small nodule in the region of the thyroid which within a year attained the size of a walnut. From this time until about eight years ago it remained practically stationary. In 1907 it began to increase rapidly in size, forming a large, moderately soft, pedunculated mass, and within a year became so large that it was necessary to support it by suspending it from the neck with a very large handkerchief.

On the advice of his family physician he went to Chicago, where the entire tumor mass was removed. The entire right lobe, isthmus and major portion of the left lobe were removed. Healing was by first intention. Immediately following the operation there were slight trismus, mental hebetude, dryness of the skin and other evidences of incipient myxedema, which gradually disappeared on the development of a recurrence. Within a week after operation there was a noticeable increase in the size of the fragment of left lobe, which rapidly increased to the size of a tangerine, forming a brawny infiltrating mass. Six months later a metastasis appeared on the manubrium, which has gradually increased in size. Contrary to the rule, there has been no pain or edema in either the primary or the secondary tumor. Patient eats, sleeps and feels well. There is a slight laryngeal cough.

Fig. 1.—Malignant degeneration of the thyroid as it appeared in January, 1909, two years after operation.

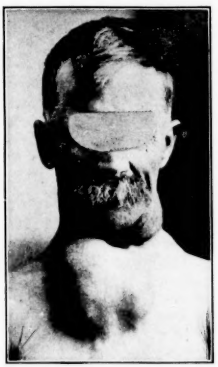

Fig. 2.—Appearance of growth in July, 1913.

Examination shows a man fairly well nourished, thin but not cachectic, muscles fairly firm, skin elastic and of good color, eyes, chest, abdomen and reflexes normal; temperature normal, pulse 76. The supraclavicular, infraclavicular and axillary lymph-nodes on the left side are enlarged and fixed to the underlying tissues, enlargement being most noticeable in the supraclavicular group. A large sessile tumor occupies the site of the left thyroid lobe. A large, nodular and extremely hard tumor mass, the size of a child's head, covers the manubrium and a part of the gladiolus. These tumors are fixed, painless and of unusual hardness. The superficial veins over the sternal tumor mass are enlarged, tortuous and prominent.

Our knowledge of the etiology of these growths does not extend beyond those factors favoring malignancy elsewhere in the body. Erhardt accepts the view that the chronic irritation accompanying goitrous changes with their attendant local vascular alterations is responsible for most cases, which is supported by the fact that

1. Meyer: Chronic Malignant Thyreoiditis, Peculiar Granuloma Consisting of Eosinophils and Plasma-Cells Originating in the Right Lobe of the Thyroid, Ztschr. f. Path., 1913, xii, 116; abstr., Surg., Gynec. and Obst., 1913, xvi, 362.

malignant degenerations, when they occur, almost invariably occur in thyroids that have undergone goitrous changes.

Braun, Cramer, von Eiselsberg, Halstead and others attribute a certain causative rôle to trauma.

The feature claiming special interest in these cases, however, is the extreme chronicity of certain types of carcinoma of this gland. The course of sarcomatous changes in the thyroid does not materially differ from that of its occurrence elsewhere in the body. Most carcinomas also run their course within the usual two- or three-year limit. Pathologists are emphatic in their contention that the occurrence of scirrhous growths in the thyroid is extremely rare, and yet we find certain malignant changes essentially of the adenocarcinomatous type that pursue an extremely chronic course extending over a period of many years, so insidious in their growth and development that they were not considered malignant by earlier writers, who even characterized their metastases as "benign metastases."

Claiming equal interest and offering a promising field for research is the problem of whether or not a neoplastic cell originating in a functionating gland may take up and perform the functions of its normal secreting structure.

A CASE OF PATENT DUCTUS ARTERIOSUS (BOTALLI)

WITH REPORT OF A NEW PHYSICAL SIGN

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The comparative rarity of patent ductus arteriosus and its diagnosis during life has been attested by the comparatively infrequent reports. In this case the diagnosis seemed clear even without the roentgenogram, which simply affirmed the clinical findings, although there are unquestionably many cases which need the roentgenogram for diagnosis.

The presence of Frank's sign (that is, audibility of the murmur in the left interscapular space), and its presence on the right side also, is worthy of mention. The lack of pulsation of the shadow of the pulmonic artery is to be noted also as Wessler and Bass state that this pulsation is pathognomic.

CASE-REPORT

C. O., aged 21, white man, born by normal delivery, not a blue baby, was a healthy and normal child, except that he has always been deaf and dumb; has had measles. There is no history of rheumatism except for occasional attacks of stiff neck. At the age of 13, while at school, he was noted for his ability as a football player. Once during this time he was confined to bed for two weeks with extreme dyspnea and fever (?) and his physician said he had heart disease and advised him never to play football again, but he continued to play. No symptoms of cardiac decompensation at any other time. Two months ago he had gonorrhea and developed epididymitis on the right side which is now quiescent.

Physical Examination.—General condition, good; spare, athletic young man. Heart inspection shows a very marked apical impulse diffused over the fifth and sixth spaces just outside of the midclavicular line.

Percussion shows right border normal except below, where it sweeps outward a couple of fingers beyond the sternum (4 cm. from the midline). Cardiohepatic angle of 90 degrees. Liver percusses dull at fifth, flat at sixth space.

Left border shows marked dulness at base of heart in the second and third left spaces. Apex in fifth and sixth spaces in anterior axillary line.

Measurements of left border:

In first space— 6.5 cm. from midsternum.
In second space— 7. cm. from midsternum.
In third space— 9.5 cm. from midsternum.
In fourth space—11. cm. from midsternum.
In fifth space—12. cm. from midsternum.
In sixth space—12.5 cm. from midsternum.

Palpation shows a continuous purring thrill in the second left space extending downward even to the third left space. It corresponds to the area of dulness described above and its position is shown on the illustration by the mark X.

The apex-beat is very forcible and extends over the fifth and sixth spaces and the sixth rib. Its position is shown in the illustration by a circle, the point of maximum intensity being represented by a dot in the circle.

Auscultation shows a loud rumbling continuous murmur heard over the second and third left spaces, X. This murmur is absolutely continuous but has a systolic and diastolic exacerbation, of which the former is the louder. It is not transmitted anywhere over the front of the thorax, or up the carotid arteries, nor is it heard in the radials or the femorals. It corresponds to the thrill felt and described.

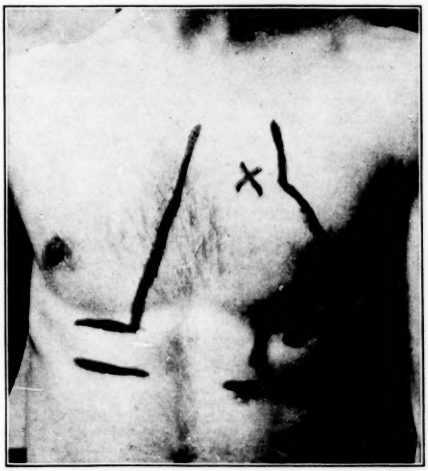

Diagram illustrating the position of the thrill murmur and the cardiac borders.

The second pulmonic sound is not distinguishable. The second aortic is clear and distinct. In the back it is heard on both sides in the region between the scapulae and the vertebral column at about the level of the spine of the scapula. Here it is heard on both sides but fainter on the right side than on the left. The sounds are, of course, markedly diminished as compared with the sounds heard anteriorly.

At the apex is a soft non-transmitted systolic murmur. The pulses are equal, regular, of normal rate and synchronous. No collapsing quality noted.

Blood-pressure: (auscultatory method).
Systolic, 105 mm. Hg.
Diastolic, 70 mm. Hg.

Extremities: Negative. No edema or signs of clubbing of the fingers or toes.

The rest of the physical examination is negative. The patient is in good health and does a moderate amount of heavy lifting in his work. Recently he ran up two flights of steps with me and was no more dyspneic than anyone without cardiac lesion would have been.

SUMMARY

The following features are noteworthy:

1. No distinct history of rheumatism.

2. A continuous murmur with thrill in the second and third left spaces, and dulness over these spaces for from 7 to 9.5 cm. to the left of the median line.

3. Localization of the murmur in both interscapular regions.

4. Left-sided cardiac hypertrophy.

5. Absence of discomfort due to heart except for one period of two weeks about eight years ago when he seemed to have some cardiac dyspnea.

A consideration of some of these observations leads me to a diagnosis of patent ductus arteriosus (Botalli). The dulness to the left of the sternum (Gerhardt's sign),[1] was well substantiated by the enlargement of the pulmonic artery which was shown in the roentgenogram. The localization of the murmur in the left interscapular region (François Frank's sign[2]) was clear.

The localization of the murmur in the right interscapular region has to my knowledge never been noted. If this localization is due to transmission down the pulmonic arteries, which would seem probable, there is no reason why it should not be bilateral.

The pulsation of the enlarged pulmonic artery, described as pathognomonic by Wessler and Bass,[3] was looked for with the Roentgen ray but was not observed.

The cause of the left ventricular cardiac hypertrophy is not at all clear. It may be due to aortic stenosis which is at times associated with open ductus arteriosus but there was no enlargement of the first portion of the aorta in the roentgenogram, as was shown in Wessler and Bass' fourth case.

There was slight enlargement to the right but the great hypertrophy of the left ventricle prevented the development of the round heart (*Kugelherz*) of Groedel.[4]

132 Eighth Avenue North.

1. Gerhardt: Persistenz des Ductus Arteriosus (Botalli) Jena Ztschr. f. med. u. Naturw., 1876, iii, No. 2.
2. Frank, François: Gaz. hebd. de méd., 1878.
3. Wessler and Bass: Persistent Ductus Arteriosus (Botalli) and its Diagnosis by the Orthodiagraph, Am. Jour. Med. Sc., April, 1913.
4. Groedel: Deutsch. Arch. f. klin. Med., 1911, cii, 413.

A PREVIOUSLY UNEMPHASIZED FEATURE IN THE CONSTRUCTION OF NITROUS OXID-OXYGEN-ETHER APPARATUS

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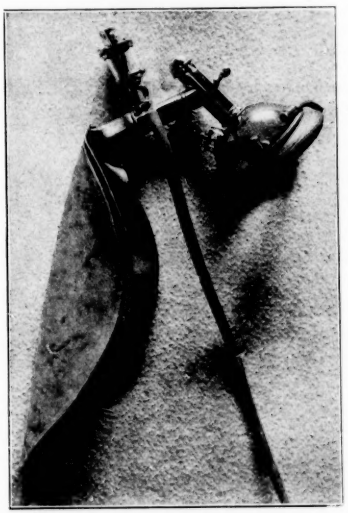
The usual arrangement of the various elements of nitrous oxid-oxygen apparatus are as follows: Nearest the face is the face-piece of variable size, shape and composition; next to this, a tube varying from 4 to 5 inches to 3 feet in length, and lastly, one or more bags used as a reservoir or for rebreathing purposes. These three elements, face-piece, connecting tube and bag, make up the essential parts of the nitrous oxid-oxygen apparatus.

Ether is dropped directly into this system, vaporizing therein before inhalation, or is admitted into the system previously vaporized.

Almost without exception the nitrous oxid and oxygen have been admitted, separately or together, directly into the bag, and it has been urged that a complete mixing be encouraged before inhalation is allowed. Many have gone so far as to provide definite percentages of nitrous oxid and oxygen. By this means it was thought possible to secure results which would not vary.

From a theoretical point of view this seems entirely satisfactory, but from a practical point of view the following difficulty arises: Imagine a person anesthetized. The anesthetist fills his bag with a definite mixture of nitrous oxid and oxygen. After the bag has been half emptied by the patient the operator finds that he has been mistaken in his percentages. The patient may either show symptoms of coming out or may be becoming rapidly cyanosed. In the first case concentrated nitrous oxid is demanded; in the second concentrated oxygen. The operator immediately runs in either nitrous oxid or oxygen, but he does not obtain the desired result because he must work through the half emptied bag, which serves to dilute the newly admitted gases.



Apparatus, showing tube for gas and oxygen entering apparatus near face-piece.

In other words, the apparatus is inelastic. It cannot adapt itself to the evanescent symptoms produced by the anesthetic. Many amateur failures of anesthesia by nitrous oxid-oxygen may be traced to this inelastic feature of the apparatus. The inexperienced, very naturally, cannot always guess what percentage to use, each patient being a law unto himself. If too much oxygen is used at the beginning, the patient refuses to go under; if too little oxygen is used, cyanosis or, in children particularly, jactitation occurs. The anesthetist can neither subdue in the one nor relieve in the other while there is still a residue in the rebreathing bag. After considerable disturbance on the part of the patient and anxiety on that of the anesthetist, an anesthesia fairly satisfactory to all concerned may be induced. Frequently the combination of a refractory patient, irritable, impatient surgeon and inexperienced anesthetist result in a poor form of gas-ether anesthesia, and gas-oxygen is blamed, unfairly, perhaps, but impersonally.

If the apparatus had been made sensitive, that is, if the nitrous oxid effects could have been had in concentrated form for only two breaths, the anesthetic state would have come on quickly. On the other hand, if oxygen could have been supplied at the first symptom of jactitation the anesthesia would have been far different.

The solution of the difficulty is so simple that its application can be made to any apparatus. The nitrous oxid and the oxygen should be admitted near the face-piece, proximal to the mixing-chamber. The gases when thus admitted flow back into the bag or are respired directly as desired.

If the gas is admitted during an inspiration, the patient receives it in concentrated form; if during expiration, the gas admitted is carried along with the expired air into the rebreathing chamber. When the gas is shut off the rebreathing continues as usual.

The effects of concentrated oxygen may be obtained by simply allowing it to run slowly and continuously into the apparatus.

To my knowledge, concentrated oxygen never did harm.

Concentrated nitrous oxid is required only in a light anesthetic state; that is, when the nitrous oxid content in the circulation is low. This state of light anesthesia is not likely to be confounded with any other condition, for there is no general depression as in ether. There is usually active light reflex, lid reflex, muscular rigidity and some movement, depending on the shallowness of the anesthesia.

In addition to this, it requires several respirations to saturate the alveolar capillaries with nitrous oxid, even when absolutely pure gas is used. But in my case the contents of the rebreathing bag tend to dilute the nitrous oxid admitted, thereby giving a high percentage of nitrous oxid rather than an absolutely pure nitrous oxid. The rate of diffusion of gases depends on their relative densities; the greater the difference in densities the greater the rapidity of diffusion. Consequently the warm gas in the bag and the cold gas just admitted diffuse rapidly.

Furthermore, there appears to be no clinical evidence that nitrous oxid thus administered is in any way injurious.

The apparatus used by me at the Woman's Hospital illustrates this feature.

This apparatus is a modification of the S. S. White inhaler. This inhaler is machine made, with interchangeable parts. A transparent celluloid face-piece enables one to watch the patient closely. The apparatus is always taken down after each operation and can be thoroughly cleansed and sterilized. Only one valve is used, a simple disk made of mica. The weight of the apparatus is two-thirds of Bennet's apparatus. It can also be used for a simple gas-ether anesthesia or for gas-oxygen induction followed by gas-ether.

The use of standard parts requiring small modification makes it possible to put out this device complete, including the rubber goods, bag and tubing, for the sum of twenty-five dollars.

The principle emphasized by Dr. R. C. Coburn in the location of the bag and also the position of the ether-cup have been employed, and acknowledgment is here made for many valuable suggestions gathered from the writings and remarks of Dr. Coburn.

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A CASE OF MACULOTUBERCULAR LEPROSY

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History.—P. M., a Mexican of Indian type, aged 40, married, but for two years past separated from his wife, was referred, June 6, 1913, by Dr. J. E. Keltner.

The patient was born in Chihuahua, Mexico, and lived there until he came to El Paso eight years ago. During this time he was employed as a laborer and grave-digger at a local cemetery. Seven years ago he had rheumatic pains in his legs, accompanied with fever and swelling. He was unable to work for ten months. In the summer of 1911 he had fever, chills and rheumatic pains, which again appeared in May, 1912. Shortly after this two papules appeared on the forehead between the eyebrows; then for seven months there were no further symptoms. During this time he drank to excess. Five months ago new lesions began to appear, first on the face, then on the body. The patient says that recurrent crops of macules began to appear, successively taking up more surface and gradually becoming infiltrated and nodular. He lives with his father, mother and sister, none of whom present any symptoms of the disease.

Examination.—The patient is a well-nourished man of powerful build, with typical leonine cast of countenance. The forehead, nose and ears are studded with tubercles. Each nipple has one or two nodules. On the posterior surface of the upper arm are two infiltrated macular patches, about 6 by 3 inches in size, which are hotter to the touch than the sourrounding tissue and apparently are not anesthetic. The wrists and backs of the hands have pigmented spots, macules and a few nodules; the elbows and knees exhibit a psoriasiform eruption. The scrotum is so studded with tubercles that the eruption has an almost confluent appearance, while a few scattered nodules are on the penis. The lower limbs from the knees downward have pigmented spots, macular patches and a few scattered nodules. There is no ulceration anywhere. The heat-center is disturbed, as the patient perspires continually, particularly about the face, even when in a cool place.

Patient with maculotubercular form of leprosy.

The man was referred to Dr. L. B. Auerbach for examination of the nose and throat, who reports as follows: The cartilaginous septum is perforated in many places; the bony septum is crumbling, producing the typical saddle-nose. There is considerable crusting and discharge with an atrophic rhinitis. The turbinates are destroyed. The hard and soft palates are infiltrated with nodules. The uvula appears as a coarsely nodular and ulcerating mass, and seems to be sloughing. The tongue is irregular and nodular. The epiglottis, larynx, aryepiglottic folds and ventricular bands are infiltrated, nodular, ulcerated and contracted. Nodules resembling papillomas are in various parts of the larynx. The pharynx, larynx and postnasal space are all anesthetic. The voice is husky and snuffling.

Dr. W. W. Waite, bacteriologist of the Crouse laboratories, found typical lepra bacilli in the secretion from an incised nodule.

The patient was quarantined, but evidently becoming alarmed at the interest displayed in his case, decamped, and has not since been seen.

The Prepared Mind.—"In the fields of observation," said Pasteur, in his inaugural address as dean of the scientific faculty at Lille, "chance only favors the mind that is prepared."—G. T. Wrench, Lord Lister, His Life and Work.

New Instruments and Suggestions

DESCRIPTION OF AN APPARATUS FOR INTRATRACHEAL INSUFFLATION

J. P. PRATT, M.D., BALTIMORE

Intratracheal insufflation as a method of anesthesia is now well established. It has already been the means of saving lives as well as increasing the possibilities of surgery. It is unnecessary to deal here with the advantages and disadvantages of this method, as they have been discussed sufficiently in recent medical literature. An anesthetist to do the best work must be able to devote most of his time and attention to the patient, and his efficiency is decreased in proportion to the attention demanded by the apparatus used.

The apparatus here described is simple in construction and easy to manipulate.

The type of motor and pump used is almost noiseless. When the apparatus is in use it is well to have a foot-bellows near by in the event that the motor should fail to work properly. The three inlet tubes (F, F' and the one to the right of F') are therefore arranged so that the connection with the pump may be retained intact while the bellows is being connected. Instead of a bellows a tank of nitrous oxid or of oxygen may be employed.

The ether container, as already noted, is provided with a pressure equalizer. Were it not for this equalizer, the ether would be driven back into the container when pressure is admitted from below. The installation of the equalizing tube allows the ether to drop at the constant rate desired. This method of introducing the ether into the air-current has the following advantages: (1) any concentration of ether desired can be obtained; (2) the concentration is readily controlled; (3) an accurate idea of the amount of ether being used at any moment can be obtained by looking at the sight-feed.

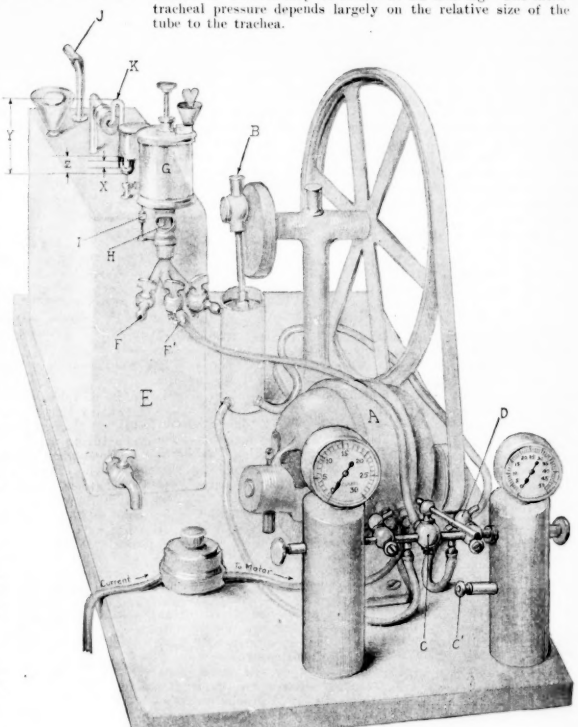
The ether driven by the current of air is vaporized in the warm coil and as it passes over the surface of the water it becomes saturated with moisture. Only a minimal amount of ether is absorbed by the water during the anesthesia, when the ether supply to the coil is discontinued, therefore, the flow of ether vapor into the tracheal tube promptly ceases. It is to be emphasized that the purpose of using warm water about the coil is solely to vaporize the ether. No attempt is made to warm the vapor, as the futility of such endeavors has been clearly demonstrated.

Furthermore, the passage of the vapor-laden air through the wide chamber above the water completely prevents the possibility of driving liquid ether into the tracheal tube.

A safety-valve is essential to an apparatus for intratracheal insufflation as emphasized by Melzer, and a manometer is also desirable in such an apparatus. Both have been provided in the machine here described, and for the sake of simplicity the two have been combined.

A glass tube is bent to form an elongated letter *S*. It is then so placed that one end opens into the air-space of the tank (*E*), and the other end is molded to form a cup which is covered with cotton and a perforated metal cap. The calibration arbitrarily chosen is that the distance (*X*) from the base of the cup to the concavity of the first curve shall be 2 cm. Into the manometer (*K*), mounted as shown in Figure 1, mercury is poured until (*Z*) the level of it in the arm (*Y*) is at the level of the base of the cup.

With the restoration of the initial pressure the mercury will flow from the cup into the tube and the manometer will be reestablished. When there is change of pressure in the tank, it will cause a rise or a fall of the mercury in the tube (*Y*). The fluctuations of the level of mercury thus serve as an indicator of the pressure of the current of air blown into the trachea, and grossly indicate the character of the respiration. If for any reason the pressure becomes greater than 2 cm. Hg, the mercury from the tube will be forced into the cup and the air will escape until the excess of pressure is relieved. The tube is not graduated, for apparently it is not necessary to measure accurately the machine pressure. Eisenbrey[1] has shown that with a machine pressure of 50 mm. Hg the pressure in the trachea may be as low as 2.2 mm. Hg. The intratracheal pressure depends largely on the relative size of the tube to the trachea.



Apparatus for intratracheal insufflation: A, an electric motor, 0.1 h.p.; B, a piston pump with valves at C and D; C', a "spring-valve" to regulate the pressure of the stream of air; E, a metal tank nearly filled with warm water to vaporize the ether and to more completely saturate the air with moisture. F and F' are inlets for the current of air, nitrous oxid and oxygen. They are connected with a copper coil placed in E, and the outlet of this coil is at the surface of the warm water near F. G is the container for ether with a sight-feed at H and a narrow tube (I) to equalize the pressure at the upper level of the ether with that of the air-current. J is the tube through which the anesthetic enters the trachea. K is a combined mercury manometer and safety-valve.

The safety-valve as described is satisfactory when the apparatus is used in anesthetizing patients in whom the chest wall is intact. When, however, the thorax is opened, no dependence is to be placed on records of machine pressure. The guide must be the condition of the exposed lung.

For an intratracheal tube a woven linen or silk catheter is used. This tube is introduced into the trachea through a Jackson pharyngoscope by direct inspection of the larynx. The procedure of introducing the tube is very simple.

1. Eisenbrey: Surg., Gynec. and Obst., xv, 715.

After the patient is well anesthetized with ether and while he is in the dorsal position, the pharyngoscope is inserted. The head is not allowed to hang over the end of the table, nor is it hyperextended, as advocated by some surgeons. Either one of these maneuvers is not only unnecessary, but really complicates the procedure, especially should it be necessary to introduce the tube during an operation. Such an emergency arose in the Johns Hopkins Hospital recently. The patient had an aneurysm of the thoracic aorta which caused a partial occlusion of the trachea. The operation was the application of an aluminum band for a femoral aneurysm. The patient had had attacks of dyspnea previous to the operation, so the anesthesia was undertaken with some anxiety. A tube was not introduced into the trachea at first for fear of rupturing the thoracic aneurysm. Considerable difficulty was experienced throughout the anesthesia in obtaining a free exchange of air. Finally, the patient became cyanotic, no air passing in or out of the lungs, although the respiratory movements were violent. The air-passages were quite free as far as the larynx, so it was evident that the obstruction was below that structure. A tube was inserted into the trachea. As it reached the level of the thoracic aneurysm a large piece of thick mucus was forcibly expelled, the obstruction was immediately relieved, and the patient's breathing became tranquil. This case illustrates two things: first, the necessity, in certain cases, of having a means of relieving tracheal obstruction; second, the possibility of introducing a tube without disturbing the position of the patient or the field of operation.

Johns Hopkins Hospital.

A BURET FOR INTRASPINOUS MEDICATION

W. F. LORENZ, M.D., MENDOTA, WIS.

Adopting the Greiner and Friedrich three-way stop-cock, I designed a buret for intraspinous medication. The instrument has been employed in a large number of cases. It has been found very satisfactory in treating tabes by the Swift-Ellis method and in the direct administration of neosalvarsan into the spinal canal.

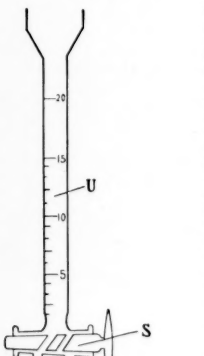


Fig. 1.—Buret for intraspinous medication.

In Figure 1, in which an effort is made to show the principle on which the buret operates, *U* indicates the upright or vertical arm. It is 28 cm. in length, 1 cm. in diameter and graduated in cubic centimeters up to 20. *S* indicates the three-way stop-cock; *R* indicates the rubber tubing which connects the instrument with the puncturing needle.

The buret is employed in the following manner: As soon as the canal is entered and fluid is obtained, the rubber tubing marked *R* is attached to the needle. The spinal fluid soon appears and gradually (the speed is entirely at the operator's choice) accumulates in the upright. This outflow can be stopped at any point by a quarter-turn at *S*. By a half-turn at *S*, the fluid in the upright is discharged at the unattached spout, where the fluid can be collected for subsequent examination. The serum or solution which is to be administered can now be poured into the upright. By turning the stop-cock *S*, the upright is again made continuous with the puncturing needle and the return flow begins. The speed of this return can be affected by raising or lowering the instrument. The flexible rubber tubing *R* permits this change of height and consequently the speed of the returning fluid is at the disposal of the operator. When the returning fluid has reached the spout, the stop-cock is turned and all further movement of the fluid ceases.

I have used a rubber tubing 10 cm. in length of about 3 mm. caliber, containing by measurement 1 c.c. of fluid. In a number of instances a rubber tube 6 cm. in length was found perfectly satisfactory. The longer tube, however, permits greater altitude, which occasionally is necessary.

The advantages of this method are: 1. The glass instrument can be readily sterilized. 2. The fluid drawn is visible. 3. The rate of flow either way can be controlled. 4. The pressure can be quite accurately estimated according to the height to which the fluid is forced. 5. No handling of spinal fluid that returns into the canal is necessary. 6. The serum or solution to be introduced can be thoroughly mixed with the spinal fluid remaining in the upright arm previous to its return flow.

Figure 2 represents the attachment to the needle employed by myself during a lumbar puncture or intraspinous treatment. *M* indicates a metal stop-cock with a vertical outlet, to which is attached a capillary tube by means of a small

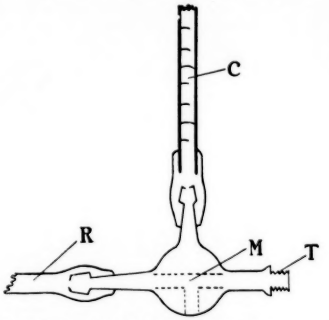


Fig. 2.—Attachment to the needle employed during a lumbar puncture or intraspinous injection.

piece of rubber tubing, the latter sufficiently firm to hold the capillary tube upright without support. The metal stop-cock has a universal thread at one outlet to which is attached the puncturing needle. The other outlet is for rubber tube connections when the previously described buret is employed.

At the time of puncture the metal stop-cock is attached to the needle. As soon as the canal is reached and fluid appears at the *R* outlet, the capillary tube is attached to the vertical arm and stop-cock *M* is given a quarter-turn; the spinal fluid then appears in the capillary tube and its height is noted. If an intraspinous treatment is to be given, the rubber tube connection *R* is made with the buret and the procedure described above is followed. After the administration, or after a simple withdrawal of spinal fluid, the reduction in pressure can be observed by simply turning stop-cock *M* until the capillary tube is again continuous with the canal.

SAFEGUARDING THE ETHER AND CHLOROFORM BOTTLES

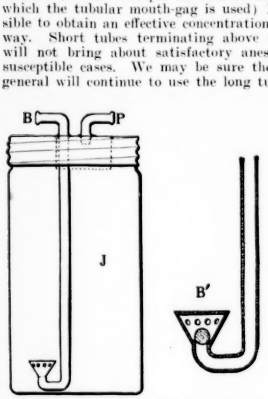
TRACY L. FISK, M.D., NEW YORK
Anesthetist, Bronx Eye and Ear Infirmary and Union Hospital

The vapor method or insufflation method of anesthesia is gaining ground so rapidly, especially in the hospitals, that I feel called on to point out a grave and entirely needless danger connected with the use of the apparatus as now manufactured or improvised. In this city Dr. Gwathmey's three bottles constitute the most popular form of container for the anesthetic. One bottle is for chloroform, one for ether and the third is a wash, overflow and warming bottle, which contains water. A more elaborate apparatus devised by Dr. Lumbard is also used. This has four bottles, two being for ether, one for chloroform, and one for water. Since chloroform has fallen into comparative disuse, many anesthetists use a single ether bottle which they improvise by inserting a long and a short glass tube in the rubber stopper of any wide-mouthed bottle of suitable capacity.

All the before-mentioned apparatus, whether manufactured by the instrument-makers or put together by the anesthetist, has the same serious fault, namely, that if it be connected wrongly, the air-pump or bellows will drive liquid ether or chloroform down the patient's throat, up his nose or into his

V. 6
1914

trachea, according to whether a hollow mouth-gag, nasal tubes or an intratracheal tube be used to administer the anesthetic. This deplorable accident has resulted fatally in several cases.[1] Hence Meltzer, in describing his intratracheal-insufflation apparatus, says that the ether bottle should be equipped with two short tubes only, instead of one long and one short tube. Thus there would be no tube below the surface of the ether. In Meltzer's method of intratracheal etherization such an arrangement is admirable, but in ordinary anesthesia by the vapor method (as for example in adenoid and tonsil operations in which the tubular mouth-gag is used) I have found it impossible to obtain an effective concentration of ether vapor in this way. Short tubes terminating above the level of the ether will not bring about satisfactory anesthesia, except in very susceptible cases. We may be sure then that anesthetists in general will continue to use the long tube in the ether bottle.



J, ether bottle, complete; *B'*, cross-section of lower end of pipe *B*, showing ball-valve.

Operating-room nurses, whatever their ability, are not bachelors of science or even master mechanics. It is therefore not surprising that sometimes in the hurry of preparing for an operation they connect the short glass tube to the bellows and connect the long glass tube to the mask or mouth-gag. When the intern, perhaps too tired from twenty-four-hour duty to be alert, begins to work the foot-bellows the result may be disastrous, particularly in those cases in which the patient has been anesthetized by othe methodr before the insufflation is begun.

To render such accidents impossible I have made an ether bottle or jar as follows (the materials cost only a few cents at any large hardware store):

B and *P* are two soft brass or copper tubes, each 3/16 inch in outside diameter, which pass through and are soldered to the tin or brass screw-top of the pint jar *J*, which top rests on a cork disk or washer not shown. *B*, which, when in use should be connected to the bellows, is long enough to reach nearly to the bottom of the jar, at which point it is turned upward. The end is filed or ground flat and the inside of the tube is bored out a little with a drill to make it perfectly round. The end of this tube forms the valve-seat. This is tested by holding a 3/16 bronze ball against it and attempting to blow or suck air through the pipe. If not air-tight the seat should be ground by rotating a steel ball 3/16 inch in diameter against the end of the tube, with fingers or pliers, using some fine emery and oil until perfect fit is obtained.

A conical brass cuff about ⅜ inch high and ⅝ inch in diameter is now soldered to the end of pipe *B*, the large end of the cone being upward, as shown. The small end of the cone is of course just large enough to fit snugly outside of pipe *B*. The sides of the cone are perforated with about eight holes each 1/16 in diameter. The bronze ball, which has not been used for grinding purposes, is now dropped into the cone and rests snugly on the valve seat. This is tested again, and if air-tight a lid is put over it, namely, a flat disk ⅝ inch in diameter with four spurs each ⅛ inch long projecting from its circumference, which, when bent down on the cone, serve as clamps. For the lid and cone 1/32 inch soft sheet brass is used, as it is easily cut with tinner's snips.

The pipe *P*, which will carry the vapor toward the patient, terminates just below the top of the jar. At this point it is completely surrounded by a brass wire gauze cage of fine mesh. This is cylindrical, about 1 inch in diameter and ¾ inch long. It prevents the ether from splashing into pipe *P* during rapid pumping. It may be said that this wire cage is unnecessary when a water-bottle is used. Many anesthetists, however, use no water-bottle. I therefore prefer to have the apparatus complete in itself so far as possible, though a water-bottle is an additional protection. When no water-bottle is used, the ether bottle should not be filled more than three-fifths full. Otherwise violent pumping might throw a little spray of ether into pipe *P*, in spite of the cage. When a water-bottle is used it is of course attached by rubber tubing to pipe *P*, and from the water-bottle another rubber tube goes to the mask. (When by mistake pipe *B* is connected to the mask and pipe *P* is connected to the bellows, the ball valve, if properly made, will prevent any ether from going to the patient, though the anesthetist should pump until the bellows burst.) A few layers of surgical gauze placed in the ether jar about the lower end of pipe *B* will greatly increase the strength of the vapor by finely dividing the air. This point is of service in anesthetizing refractory subjects.

I have described this simple apparatus in detail in the hope that many anesthetists and house surgeons who are skilful with file and soldering-iron will make their own safety ether bottles, and that instrument-makers will safeguard all the bottles which they turn out. Thus we shall stop these disgraceful accidents, few of which in all probability are reported.

1981 Southern Boulevard.

1. Hewitt: Anesthetics, 1912, p. 394. Meltzer: Keen's Surgery, 1913, vi, 570.

AN IMPROVED DIPHTHERIA CULTURE-TUBE*

C. C. BASS, M.D., NEW ORLEANS

Those who have occasion to take throat cultures for the diagnosis of diphtheria will no doubt appreciate some of the advantages of the tube shown in the accompanying illustration, and proposed by me to take the place of the usual outfit supplied by board of health laboratories and others for this purpose.

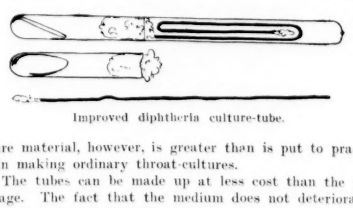
Tubes 1 cm. in diameter (outside measure) and 12 cm. long are the proper size for this purpose. The swab should be made of No. 18 copper wire, 12 cm. long, and bent so that it can be placed in the tube above the cotton plug, as illustrated. Five-tenths c.c. of the Loeffler serum mixture is the proper amount to make a slanted surface about 2 cm. long in tubes of this size.

After the serum mixture, cotton plug and swab are placed in the tubes as indicated, they are hermetically sealed. This can be done rapidly with the aid of a blow-pipe or blow-torch. They are now sterilized in the proper slanting position. Finally, they are marked with a file or glass cutter near the junction of the middle and upper thirds of the length of the plug. When broken for use, one end of the tube is a small culture tube and the other end contains the swab, which can be straightened out for use.

Some of the advantages of this tube are:

1. It keeps indefinitely, and does not dry out or become infected.

2. It is small and does not occupy so much space as the usual package in one's satchel or pocket. The surface of culture material, however, is greater than is put to practical use in making ordinary throat-cultures.



Improved diphtheria culture-tube.

3. The tubes can be made up at less cost than the usual package. The fact that the medium does not deteriorate is a further source of economy.

Those likely to have occasion to take throat-cultures will find it to their advantage to add one or more of these tubes to their armamentarium in order to avoid the delay and dissatisfaction often occasioned in obtaining tubes from a drug-store or laboratory. Board of health laboratories should adopt and supply this form of tube. They could be placed on the market by manufacturers to be sold profitably for a few cents apiece.

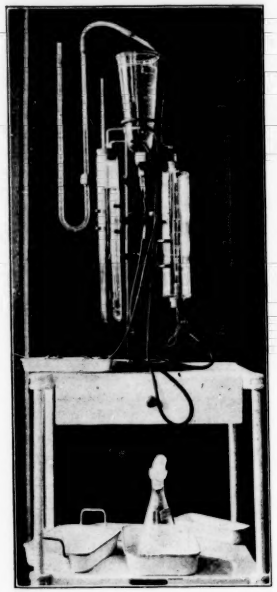
741 Carondelet Street.

* From the Laboratories of Clinical Medicine and Tropical Medicine, Medical Department of the Tulane University of Louisiana.

APPARATUS FOR ARTIFICIAL PNEUMOTHORAX

LEWIS SAYRE MACE, M.D., SAN FRANCISCO

During the past year I have had occasion to make and use several kinds of apparatus for artificial pneumothorax. The accompanying illustration shows the form and arrangement which I have found most practical and simple, while fulfilling all the requirements for this operation.



Apparatus for artificial pneumothorax.

The apparatus described by Forlanini consists essentially of a water and mercury manometer and graduated cylinders to hold the gas and displacing fluid mounted on a wooden stand. The Forlanini apparatus is difficult to obtain, expensive, and too cumbersome to be easily transported.

Many different forms of apparatus have been made by operators in this country, but the one I am describing seems to me to be the one most free from disadvantages.

This consists of a buret stand, to which is attached a water manometer, cylinder for gas and percolator above for displacing liquid. In addition to these are the wash-bottle and continuous pressure manometer, as described by me in THE JOURNAL, Nov. 1, 1913, p. 1629.

These articles—buret stand, clamps and glassware—can always be found in stock in supply-houses and require but a few minutes to assemble.

The whole apparatus can be packed in a small grip and carried to the bedside.

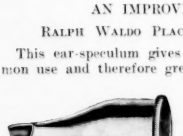
The glass cylinders for containing the gas presented the greatest difficulty until I found that the cylinders of the ordinary glass rolling pin were of the right size and most conveniently made with a hole at each end. These contain about 1 liter each and any number of them can be filled and carried to an operation. They are fitted with one-holed rubber stoppers at each end, and when in use the gas is displaced from below as shown in the illustration.

240 Stockton Street.

AN IMPROVED EAR-SPECULUM

RALPH WALDO PLACE, M.D., SOMERVILLE, MASS.

This ear-speculum gives a larger field than those in common use and therefore greater freedom to the operator. By using the ordinary ear-spoon with it, a foreign body or hardened mass of cerumen can be grasped and withdrawn. In this way it is used as a scoop.



Improved ear-speculum.

Those who do much ear work will appreciate the fact that it is easy to clean.

The Frank S. Betz Company have made me several models in aluminum, and the instrument may be obtained from them in three sizes.

165 Medford Street.

A SIMPLE INSTRUMENT FOR TRANSFUSION*

BERNARD FRANCIS MCGRATH, M.D., ROCHESTER, MINN.

Although blood transmitted through tubes or aspirated and injected has been proved to be practically effective, yet is not that method which causes the nearest approximation to the normal vascular condition the logical one? Because of the nature of the work, desiderata in any method of transfusion are simplicity and rapidity in its execution; and an essential is sureness of flow. The instrument and method of application shown in Figures 1, 2 and 3 I have found practical in experimentation. The intima of the donor is applied to the intima of the recipient in a direct line, with no foreign substance at the point of union, and only the slightest locking of the forceps is necessary to prevent leakage.

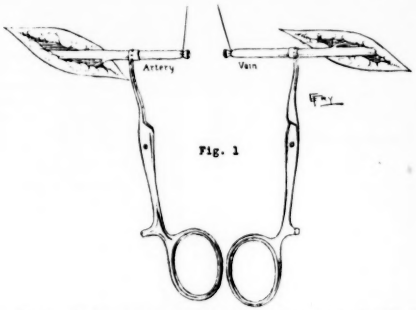


Fig. 1.—Vessels drawn through cannula by means of ends of ligatures.

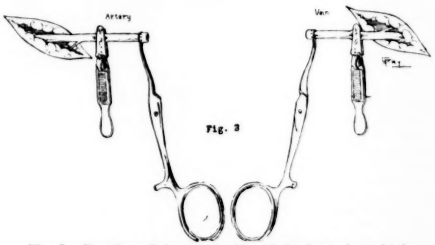


Fig. 2.—Vessels cuffed on cannula and fixed on sharp hooks.

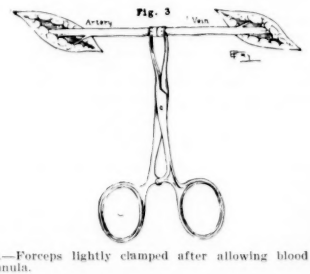


Fig. 3.—Forceps lightly clamped after allowing blood to flow from cannula.

* From the Mayo Clinic.

Hidden Sources of Infection.—Do what we will, our health depends not only on how we live but also on how the other people of the community live.—J. W. Trask, *Pub. Health Rep.*

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

RADIUM AND RADIUM SALTS

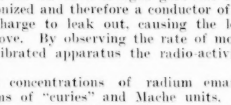
Radium is a bivalent metallic element closely related to barium. It is exceedingly reactive, making it difficult to isolate in its metallic state and after isolation to keep in a pure state, as it reacts with air, forming the oxide, nitrite and finally the carbonate. On account of this activity it is only produced in the form of its salts, principally as the bromide, chloride, sulphate and carbonate.

The most important property of radium is its radio-activity upon which depends its therapeutic value. Radio-activity is defined as "the property of spontaneously emitting radiations capable of passing through plates of metal and other substances opaque to ordinary light and having the power of discharging electrified bodies." A spontaneous disintegration of the atoms characterizes all the radio-active elements and it is in this transmutation or splitting of the atom that the rays are shot out, some being material in nature, others electrical or of the nature of light. This spontaneous transmutation of radium is going on at a regular rate, which is independent of the state of combination of radium in the molecule of its compounds.

To determine the radio-active value of radium, use is made of its property of ionizing gases. Thus when radium is allowed to act on the air in a charged gold-leaf electroscope the air becomes ionized and therefore a conductor of electricity and allows the charge to leak out, causing the leaf in the electroscope to move. By observing the rate of movement of the leaf in a calibrated apparatus the radio-activity can be determined.

Quantities and concentrations of radium emanation are expressed in terms of "curies" and Mache units. A "curie" is the amount of emanation in equilibrium with 1 gram of radium; a microcurie, one millionth of a "curie," is the amount of emanation in equilibrium with 0.001 mg. radium and is equivalent to about 2,500 Mache units.

Relation of Radium, Radium Emanation and Rays.—The rays are largely derived indirectly from radium through the formation of its "active deposit," according to the following scheme:



These rays are divided into three groups, the alpha, beta and gamma, which differ in their velocity and penetrative power. The alpha and beta rays consist of minute particles of matter electrically charged and moving with a velocity almost equal to that of light. They are for the most part of relatively feeble penetrating power. The gamma rays are vibrations in the ether, very similar to x-rays, and of high penetrating power. Therapeutically the last group is the most useful.

Radium emanation is continuously given off from aqueous solutions of radium salts. It can be collected as it escapes from the solution, drawn off through the use of the mercury pump, or by other suitable means, quantitatively determined by either the alpha or gamma ray electroscope, brought into solution in water for internal or external use or be set free in an emanatorium for inhalation treatment. It may be collected into small glass containers and this used in place of the applicators described under surgical use.

Actions and Uses: Radium emanation is said to increase the excretion of uric acid in the urine and to decrease its concentration in the blood; to increase somewhat the number of red blood-corpuscles; to cause temporary leukocytosis early in the course of treatment, the mononuclear increase being relatively greater; to lead frequently through long-continued use to leukopenia, although no appreciable benefit is observed in leukemia. It is said that radium increases general metabolism, and *in vitro* activates certain enzymes, pepsin, pancreatin, rennin, autolytic ferments, tyrosinase and diastase.

It has been claimed that radium emanation is of value in all forms of non-suppurative, acute, subacute and chronic arthritis (luetic and tuberculous excepted), in chronic muscle and joint rheumatism (so-called), in arthritis deformans, in acute and chronic gout, in neuralgia, sciatica, lumbago, and in tabes dorsalis for the relief of lancinating pains. Its chief value is in the relief of pain.

Surgical Use: The efficiency of the treatment is due to the beta and gamma rays. The quantity of ray is proportional to the amount of radium element represented in the salt or the emanation. Pure gamma rays may be employed when the apparatus is surrounded by at least 3 mm. of lead. Nearly all pathologic tissues are more sensitive than normal tissues. There is, however, a wide variation in the normal tissues; e. g., the ovary and the sexual organs are very sensitive, the eye and nervous tissues very unsensitive. In skin diseases marked results are obtained with epitheliomata, birthmarks and scars.

Technic: Usually heavy doses with epitheliomata, light doses with other conditions. New growths, benign and malignant, of the pelvic organs, the breast, the neck and other parts of the body have been most favorably influenced in some cases. The growths of the mucous membrane of the mouth are quite resistant. There is a remarkable sedative effect in true neuralgias, as well as those due to tumor pressure. The dosage for internal work is heavy, "hundreds of milligrams," and always with the pure gamma rays. The technic of filtration, of length of application and of amount is still in an experimental stage.

The radium salts and the emanation can be placed in any sealed container, but preferably in glass.

Dosage: It may be administered as baths, by subcutaneous injection in the neighborhood of an involved joint (0.25 to 0.5 microcurie in 1 or 2 Cc. distilled water), by local application as compresses (5-10 microcuries), by mouth as a drink cure (in increasing doses of from 1-10 to 10 microcuries three or more times a day), by inhalation, the patient for two hours daily remaining in the emanatorium, which contains 0.0025 to 0.25 (average 0.1) microcurie per liter of air.

RADIUM CHLORIDE.—Radium chloride is the anhydrous radium salt, $RaCl_2$, of hydrochloric acid. While nearly pure radium chloride, containing 76.1 per cent. radium (Ra), is said to be obtainable, the market supply is a mixture of radium chloride and barium chloride and is sold on the basis of its radium content.

Actions and Uses: See Radium.

Dosage: See Radium.

Non-Proprietary Preparation:

Radium Chloride, Standard Chemical Co.—Radium chloride is supplied in the form of a mixture of radium chloride and barium chloride for use in radium baths, radium drinking-water and inhalatoriums. It is sold on the basis of its radium content.

Manufactured by the Standard Chemical Co., Pittsburgh, Pa. (The Radium Chemical Co., Pittsburgh, Pa.).

Pure anhydrous radium chloride occurs as a white or slightly brownish crystalline substance, soluble in water.

The presence of radium can qualitatively be demonstrated by electroscopic or by photographic methods.

The quantitative determination of radium is carried out according to the method of Rutherford and Boltwood (Rutherford's "Radioactive Substances and their Radiations").

RADIUM SULPHATE.—Radium sulphate is the anhydrous radium salt, $RaSO_4$, of sulphuric acid. While nearly pure radium sulphate, containing 70.2 per cent. (Ra), is said to be obtainable, the market supply is a mixture of radium sulphate and barium sulphate and is sold on the basis of its radium content.

Actions and Uses: See Radium.

Dosage: See Radium.

Non-Proprietary Preparation:

Radium Sulphate, Standard Chemical Co.—Radium sulphate supplied in the form of a mixture of radium sulphate and barium sulphate for use in applicators. It is sold on the basis of its radium content.

Manufactured by the Standard Chemical Co., Pittsburgh, Pa. (The Radium Chemical Co., Pittsburgh, Pa.).

Pure radium sulphate occurs as a white substance insoluble in water and dilute acids.

The presence of radium may be qualitatively determined by electroscopic or by photographic means.

The radium content may be determined as in the case of radium chloride.

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SATURDAY, JANUARY 3, 1914

Recently the bona-fide circulation of THE JOURNAL of the American Medical Association reached and passed the 60,000 mark. This does not include sample copies; it comprises only the actual circulation. Compared with that of lay weekly publications this would not be considered remarkable; but for a scientific or class publication, especially with such a limited clientele as the medical profession, this circulation must be regarded as very large. It is much more than double the combined paid circulation of all other weekly medical journals in this country, and is very nearly equal to the total paid circulation of all other medical weeklies published in the English language. At the present time approximately 39,000 subscribers are Fellows — until recently called "members" — of the American Medical Association. The remaining subscribers alone, over 20,000, equal the total number of paid subscribers to the four other medical weeklies in the United States. Heretofore the number given on the title-page of THE JOURNAL week by week has been much below the actual circulation. Beginning this week, the figures given will represent the actual number of copies printed, and will include sample copies and also those held as reserves.

THE LESSONS OF AN EXPERIMENT IN THE SUPPRESSION OF VENEREAL DISEASES

The propaganda for the suppression of venereal disease has probably departed further from the rules of practical experience, and hesitated more to adopt or advocate measures which have demonstrated their usefulness in allied directions, than has the agitation for the control of any other chronic infectious disorder of man. It is becoming increasingly more obvious that campaigns of public education, important and directive as they have been proved to be in all movements for the general welfare, cannot of themselves stamp out a disease that rivals tuberculosis as a cause of incapacity, sickness and misery. Now that the causes and mode of transmission of syphilis are known and modern discoveries have afforded such satisfactory aids to accurate diagnosis, it is time to give greater latitude to the recommendations of medical science; for it is becoming more and more evident that the problems can be solved only by the joint efforts of the publicist, the statesman and the physician. In an interesting account of the remarkable piece of work which has been done in the state of Victoria, Australia, and particularly at Melbourne, Dr. James W. Barrett[1] has indicated why medical men have encountered so much difficulty in combating some of the contagious diseases. The management of these diseases has always been complicated by the admixture of practical medicine with morality. Medical men dislike vice, Dr. Barrett rightly says, perhaps rather more than most persons, because they see so much of its nauseous side; but medical men as such are not teachers of morality; their primary duty is to prevent and cure disease.

A right understanding of the facts is a necessary foundation for public action. The first step was to obtain first-hand evidence of the actual distribution and incidence of venereal diseases. For twelve months syphilis was made a compulsorily notifiable disease in an area of ten miles' radius from the general post-office in Melbourne. This plan, admittedly imperfect, despite the fact that no names were given, and that Wassermann tests were conducted without charge and a fee was paid to any practitioner for reporting the cases and collecting blood, aroused an unexpectedly cordial response in the profession as a whole. At the end of the year, out of 5,000 cases reported and tested, 3,167 proved to be syphilitic. In another of these public experiments at the Victorian Eye and Ear Hospital, 13.3 per cent. out of 550 patients examined, irrespective of the disease or condition which had caused them to visit the institution, were syphilitic. Such data indicating the incidence of syphilis in a considerable fraction of a population, taken at random and systematically published in unexpurgated form, furnished convincing evidence to demonstrate the magnitude of the problem.

As the outcome of these findings it was decided by a conference of the various interested committees of the laity and the medical profession not to advocate any contagious disease act to remedy the situation, but to attack it in another manner. Wards were equipped by the government in at least two hospitals in Melbourne for the treatment of persons of any class, except prostitutes, who were suffering from venereal diseases in contagious forms. The object was not so much solicitude for the sufferers as a desire to prevent further infection. The profession was circularized and asked to send patients for treatment and advice. The Australian government has further arranged with the University of Melbourne for the free application of the Wassermann test to 2,000 hospital patients a year, and to all others at a very low fee. Lastly, it is proposed to introduce a modification of an act already in force in New South Wales to provide that any person sentenced to a term of imprisonment for any cause, if found to be

1. Barrett, J. W.: The Suppression of Venereal Diseases: An Australian Experiment. Bedrock, 1913, ii, 102.

suffering from contagious venereal disease, can be detained until his release is free from risk to other persons.

In contrast with many other hastily conceived plans of procedure, the entire conduct of this Australian movement strikes one as eminently intelligent, temperate and efficient. The attack along medical lines has followed a comprehensive investigation into the real occasion for such an undertaking. All the agencies for the removal of social excrescences and the gradual recasting of social relationships have cooperated under the dominant influence of medical leadership.

HEXAMETHYLENAMIN

The well-established fact that hexamethylenamin acts in some cases as an efficient urinary antiseptic led to its wide use for the prophylaxis of typhoid cystitis and other infections of the genito-urinary tract. The first publications of Nicolaier showed that this drug decomposes in acid urines with the formation of formaldehyd, which then exerts a marked antiseptic action. When Crowe and others showed that hexamethylenamin passes into all the tissues and body fluids, the hasty generalization was made that it would act as efficiently against infection in other organs as it did in the bladder. This deduction was apparently supported by clinical observations, although some unsuccessful cases made the results indecisive.

Laboratory experiments show that the activity of hexamethylenamin depends on its decomposition into formaldehyd and ammonia. This decomposition takes place only in an acid medium. How, then, can hexamethylenamin have an antiseptic action in the tissues, which are alkaline in reaction?

An attempt was made to solve this question by the application of tests for formaldehyd directly to the body fluids after the administration of hexamethylenamin. Unfortunately, some investigators employed tests that did not differentiate between hexamethylenamin and formaldehyd, so that their results were worthless. The paper of Burnham was especially serviceable in calling attention to this point. When tests were used which respond to formaldehyd alone, his results, and incidentally those of others who preceded and succeeded him, were negative except as to the urine. They showed that formaldehyd was not present in the other body fluids. The tests themselves, however, were not always convincing; and even if their correctness was granted, they were not absolutely decisive. It might be objected that the formaldehyd disappeared about as rapidly as it was formed. This objection was answered by the work of Smith and the later investigations of Hanzlik and Collins,[1] who proved that the liberation of formaldehyd can occur only in fluids having an acid reaction according to modern indicators or by the electrolytic method. Smith showed that this holds true for urines, and Hanzlik and Collins have proved it further for all body fluids. A true acid reaction occurs only in the urine and the gastric juice; the blood, cerebrospinal fluid, mucus, exudates, etc., are not acid. Therefore, no formaldehyd can be liberated in these fluids.

Another objection has been disposed of by the work of Hanzlik and Collins. It has been supposed that hexamethylenamin might act as an antiseptic independently of the formation of formaldehyd; these observers found that on adding this drug to various liquids inoculated with bacteria, an antiseptic effect was obtained only when a sufficient quantity of formaldehyd was liberated. If the liberation of formaldehyd in the culture mediums was prevented, even very high concentrations of hexamethylenamin were ineffective.

There remains a third theoretical possibility to be investigated. Hanzlik and Collins suggest that the reaction of the body-fluids might change to acid in disease. This is, however, highly improbable. It may therefore be affirmed that under ordinary conditions the only part of the body in which hexamethylenamin may be expected to exert an antiseptic action is the urinary tract. Extensions of the use of hexamethylenamin therapy to other organs must be abandoned as useless. Even as a urinary antiseptic, the drug is useless unless the urine is acid; if it is not already acid, sodium acid phosphate should be administered to render it so. Substances which tend to render urine alkaline are physiologically incompatible with hexamethylenamin, and, if administered in sufficient quantity to overcome the acidity of the urine, will entirely destroy the effect of the latter drug. Sodium or potassium citrate or acetate may be used in this way to stop the action of the drug if urinary irritation appears.

1. Hanzlik, Paul J., and Collins, R. J.: Hexamethylenamin: the Liberation of Formaldehyd, and the Antiseptic Efficiency under Different Chemical and Biological Conditions, Arch. Int. Med., November, 1913, p. 578.

STARVATION METABOLISM IN INFANCY

For many years the study of the transformation of matter and energy during hunger has commanded attention because of the belief that statistics thus derived represent the basal needs, so to speak, of the organism, and furnish an index to its fundamental requirements. The expenditures of the body during periods when food is not supplied were quite naturally regarded as a measure of the real wear and tear and the demands of maintenance, independent of external factors like food. They were believed to determine in a precisely estimated way what contributions the fundamental up-keep of the human machine calls for.

More recently, numerous careful investigations have placed new interpretations on the nutritive phenomena of inanition. They have forced to our attention the fact that metabolism in starvation shows deviations from the nutritive exchanges in ordinary conditions of health

and adequate diet. Indeed, it is no stretch of truth to designate certain features of hunger metabolism as akin to those commonly regarded as pathologic in type. We need only recall here the acidosis phenomena which speedily manifest themselves when an individual is completely deprived of food. The full significance of all that is involved still needs to be learned; and this deserves emphasis in view of the wide-spread propaganda for so-called fasting cures fostered by untutored faddists and promulgated by all manner of publications that catch the public eye. The harm that is threatened needs equally well to be brought to popular notice, despite the fact, which may freely be admitted, that enforced starvation can have useful applications in therapy. The advisability of a measure not infrequently depends on the person who is to administer it; and for the present dietotherapy is surely safer in the hands of experts in nutrition than in those of routine magazine writers.

The institution of starvation, either complete or partial, has obtained some recognition of late in the clinic of the disorders of early infancy. If opinion has been somewhat divided among the experts as to its advantages or counter-indications, this is doubtless due to the fact that comparatively little has hitherto been known in regard to the hunger metabolism of normal individuals at this early period of life. The rapidly progressing modern pediatrics has appreciated the gap in our knowledge and is seeking to fill it with first-hand information. The work of Schlossmann's clinic in Düsseldorf may be singled out to illustrate the newer acquisitions in this field.[1] It is made evident by the most recent of these studies that the loss of nitrogen in starving normal infants is of about the same order of magnitude, per kilogram of body weight, as that of adults during inanition. The individual variations exhibit a comparable range. In infants the protein metabolism of starvation appears to be pronouncedly dominated by the preceding type of nutrition. If this has been rich in albuminous foodstuffs, the nitrogen output in the early days of starvation will be correspondingly high. This is no new fact in the science of nutrition; but it is worthy of emphasis here because of its practical aspects in the case of infants. Breast-fed children usually transform less protein than do infants on "artificial" dietaries; they likewise disintegrate less of their own protein when starvation is inaugurated. Schlossmann maintains that if, for any reason whatever, a breast-fed child is forced to starve, it will be likely to survive the hunger with far less loss and nutritive damage than artificially nourished infants would undergo.

The excretion of the ketone substances—acetone, beta-oxybutyric acid—appears to be comparable, in the case of infants, to what obtains in adult man. There is no doubt that lack of carbohydrate, i. e., carbohydrate starvation, is the underlying cause. In other details, too, the hunger metabolism of infants at rest tallies with what previous physiologic studies lead one to expect. Such facts must form the basis for any judgment as to the utility or consequences of procedures which involve starvation during infancy.

1. Schlossmann, A., and Murschauer, H.: Der Stoffwechsel des Säuglings im Hunger, Biochem. Ztschr., 1913, lvi, 356. Czerny: Ueber die Bedeutung der Inanition bei Ernährungsstörungen der Säuglinge, Samml. zwangl. Abhandl. a. d. Geb. d. Verdauungs- u. Stoffwechs-Krankh., 1911, iii, No. 2; Langstein and Benfey: Die Einwirkung des Hungers auf den Säuglingsorganismus (Uebersichtsreferat), Med. Klin., 1911, No. 50, p. 1941; Rosenstern, Iwan: Ueber Inanition im Säuglingsalter, Ergebn. d. inn. Med. u. Kinderh., 1911, vii. Further references are furnished in the bibliographies of the American Journal of Diseases of Children.

ABERRANT EPITHELIAL STRUCTURES IN THE CORTEX OF THE KIDNEY AND THEIR RELATION TO THE SO-CALLED HYPERNEPHROMA

The so-called hypernephroma is undoubtedly the most frequent malignant tumor in the kidneys. Until quite recently these tumors were regarded as originating in aberrant remnants of adrenal tissue most commonly believed to occur immediately under the capsule of the kidney. This view was advanced by Grawitz in 1883, and the tumors in question are frequently referred to as "Grawitz tumors." This conception of the origin of these tumors was based largely on the similarity between the tumor cells and the cells in the adrenal cortex. Specks and patches of a yellowish or grayish-yellow paler than the renal cortex are frequently found in the surface of the kidney, and these structures are held, usually, to be bits of misplaced adrenal tissue. Renal hypernephromas consequently have been regarded as a good illustration of Cohnheim's supposition that malignant tumors develop from misplaced embryonal matrix, a conception of which we hear much less now than we did some years ago.

Of late the view of Grawitz in regard to the nature of the so-called hypernephromas has been attacked by various men. Thus Stoerk pointed out that such growths do not occur in the adrenals, the primary tumors of which are of different structure, and that the most common site of the Grawitz tumor is the middle zone of the kidney; whereas the supposed adrenal rests most often occur near the upper pole of the kidney. Wilson and Willis[1] regard the hypernephromas as developing in rests of nephrogenic tissue; they base this conclusion on elaborate embryologic considerations, and Glynn[2] emphasized that, while abnormal sexual development is frequently present in cases of tumors of the adrenal cortex, it is not observed in cases of Grawitz tumor.

In view of all this opposition to Grawitz' explanation it becomes a matter of importance to subject the peculiar patches in the renal cortex just mentioned to closer study in order to understand their true nature better, and from Dunn's[3] observations on eighty consecutive

1. Wilson and Willis: Jour. Med. Research, 1911, xxiv, 73.
2. Glynn, E. E.: Adrenal Cortex, Its Rests and Tumors; Its Relation to Other Ductless Glands and Especially to Sex, Quart. Jour. Med., 1912, v, 157; abstr., THE JOURNAL A. M. A., Dec. 7, 1912, p. 2097.
3. Dunn: Jour. Path. and Bacteriol., 1913, xvii, 515.

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post-mortems we learn that such masses are, in the first place, not at all infrequent (as is already known), and, furthermore, that they represent three distinct types, namely, true adrenal rests, adenopapillary tissue and papilliferous cysts. The cells in the latter in particular resemble the bloated cells of the Grawitz tumor and, while malignant growths may be conceived to arise from any and all of these formations, "the papilliferous, from their peculiar histologic features, suggest themselves as the most probable origin of tumors of the Grawitz type" (Dunn). These cysts appear to originate from the tissue of the kidney and in one case Dunn was able to trace a definite connection with a convoluted tubule.

These results indicate that further systematic studies of so-called adrenal rests in the kidneys are desirable, and that additional insight may be secured thereby into the nature and origin of malignant tumors of the kidney.

PHTHISIOPHOBIA IN THE LIGHT OF RECENT DEVELOPMENTS IN TUBERCULOSIS INVESTIGATIONS

With the application of our growing knowledge of the immunologic reactions to tuberculosis, and especially the influence of allergy on the tuberculous process, have come new concepts and revivals or transformations of old ones. The studies of von Pirquet, Roemer and Hamburger, the workers in the laboratories at Saranac Lake, Calmette and others, have thrown a new light on the relation of allergy to tuberculosis and the nature of reinfection and superinfection. They show that what has been recognized clinically as a lowered resistance to tuberculosis, as after measles, influenza, etc., is undoubtedly associated with the condition of allergy of the person. Thus, von Pirquet found that in measles there may be a disappearance of an existing tuberculin sensitiveness during the height of the acute disease, with a return of the reaction later. Now since practically all persons become infected with tuberculosis in childhood, and become allergic to the tubercle bacillus so that they give positive tuberculin reactions, it is evident that the existence of the original latent or healed lesion and the resulting allergic condition must profoundly modify subsequent infection with new strains of tubercle bacilli which are introduced from time to time during the rest of the person's life.

Many experimenters have shown that a previous infection does serve to protect against infection with new lots of tubercle bacilli, and this principle is now generally accepted. Thus, a guinea-pig already infected with tubercle bacilli successfully resists subsequent local inoculations, not only with tubercle bacilli from outside sources but also with bacilli cultivated from its own lesions. As to the influence of this principle on human tuberculosis, and especially on the danger of infection from consumptives, we would commend to our readers an address on this subject by Dr. E. R. Baldwin of Saranac Lake.[1] He points out the need of applying a check to phthisiophobia, which "has had no check from the time the knowledge of the bacillus was popularized. Cornet's dust experiments first gave the impulse to a fear, followed by Flügge's droplet infection, which has aggravated the solicitude felt by physicians and nurses, and which has been gradually spread to the laity." Not until the recent researches, briefly considered in the foregoing, have we had a proper understanding of the great power of defense of which the average adult is capable, although not a few careful clinical observers have pointed out evidence that the constantly exposed husbands and wives with consumptive mates show no such morbidity as a high degree of contagiousness would necessarily produce, and the incidence of tuberculosis in physicians and nurses in tuberculosis hospitals is not indicative of a ready infection with the omnipresent bacilli.

Baldwin says that we are reasonably sure of the following: 1. Most adults have received some tuberculous infection. 2. From this they have acquired a variable degree of specific allergy. 3. During ordinary health the tissues repel tubercle bacilli, partly, at least, with the aid of this specific allergy. 4. Reinfection of adults is mostly a superinfection coming from the existing lesions, and due to disease, trauma, overstrain or any cause of "lowered vitality," whatever that may mean. 5. "Finally, as a corollary, adults are very little endangered by close contact with open tuberculosis, and not at all in ordinary association. Childhood is the time of infection, youth the time of superinfection, and that from extension of the primary disease. Qualify these statements as we may, it is time for a reaction against the extreme ideas of infection now prevailing. There has been too much read into popular literature by health boards and lectures that has no sound basis in facts, and it needs to be dropped out or revised. More protection of children and better hygiene for adults are logically demanded, but beyond this the preachments about the danger of infection to adults in the present state of society are without justification from an experimental standpoint." The statements which we have quoted represent not one man's views, but what seems to be the growing conviction of many of the most progressive and thoughtful students of tuberculosis at the present time.

Current Comment

DEFICIENT OXIDATION AND NARCOSIS

We have in the past discussed the broad and mooted question as to whether the manifestations of narcosis are due to a sort of asphyxiation of the cells — in other words whether deficient or decreased oxidative capacity

1. Baldwin, E. R.: Allergy and Reinfection in Tuberculosis, Bull. Johns Hopkins Hosp., 1913, xxiv, 220.

can explain the familiar narcotic phenomena of the nervous system.[1] The view that organic narcotics and anesthetics of the volatile type bring about an insensibility or decreased irritability toward stimuli primarily by depressing the rate of oxidative changes in the tissues has been vigorously defended. Equally trenchant have been the criticisms directed against the theory. We mentioned some of these in referring to Winterstein's important observation that certain parasitic animals which are capable of undergoing an existence in the absence of respired oxygen are nevertheless readily narcotized by the volatile anesthetics — a fact which would be inexplicable on the assumption that narcosis is due to an inhibition of oxidation.[2] Further convincing evidence has now been furnished by Loeb and Wasteneys.[3] In varied selected experiments on lower forms in which the numerous accessory disturbing factors offer less interference in drawing a clear-cut conclusion, the investigators of the Rockefeller Institute have shown that conditions of profound narcosis can be induced without any noteworthy diminution of the normal rate of oxidation for the species. Furthermore, though an inhibition of motility and irritability to stimuli can be brought about by decreasing the oxidative changes—for example, by cyanids—the narcotic phenomena are not manifested by this means until the oxidative functions are lowered far beyond the point reached in ordinary narcosis with substances like chloroform, ether, alcohols, chloral hydrate, urethane, etc. Conversely, in order to depress oxidation these compounds must be administered in concentrations far beyond that called for in the purposes of narcosis. The asphyxial theory of narcosis seems doomed.

DEATHS OF CHILDREN BY BURNING

While fatalities from burning are but a minor fraction of the mortality from preventable causes, they are sufficiently numerous to warrant an attempt to prevent them. This is especially true of deaths of children from burning. In this country there are few available correct statistics on the subject. In England, however, it is different; there the statistics are not only dependable, but available. Dr. Brend[4] has compiled and analyzed the data regarding deaths of children from burning. From the years 1906 to 1911 he found that up to the age of 1 there were 214 boys and 234 girls burned; from 1 to 4, there were 1,663 boys and 1,818 girls; from 4 to 5, 368 boys and 775 girls; from 5 to 10, 389 boys and 1,427 girls, and from 10 to 20, 80 boys and 630 girls. It is at once evident that there is a marked difference between the mortality of boys and girls. This difference is probably due to the different type of clothing worn by the two sexes. Up to about the ages of 2 and 3, boys and girls are dressed alike. From 3 to 4 the boys put on the simpler male attire and there is an abrupt and marked fall in the mortality from burning. There has been much condemnation of the material known as flannelet, which is a very inflammable cloth, although from the figures quoted it would seem that it is not so much the material as the style of clothing which leads to loss of life. For other reasons as well, namely, freedom of movement, better hygiene and general cost of clothing, there would seem to be a demand for a further simplification of the manner of dressing girls, particularly those of the younger ages.

1. A View of Anesthesia, editorial, THE JOURNAL A. M. A., Sept. 20, 1913, p. 968.
2. Winterstein, H.: Biochem. Ztschr. 1913, li, 143.
3. Loeb, J., and Wasteneys, H.: Narkose und Sauerstoffverbrauch. Biochem. Ztschr., 1913, lvi, 295.
4. Brend, W. A.: Lancet, London, 1913, ii, 1321.

HYDROXYPHENYLETHYLAMIN — AN ANIMAL POISON

The pharmacologic investigation of synthetic aromatic amins has been greatly stimulated by the discovery of the chemical structure of epinephrin and the demonstration that it belongs in this group of organic compounds. The systematic testing of numerous related and suitably constituted amins has shown that in general they exhibit pressor effects on the circulation and other physiologic phenomena characteristic of the effective agent of the adrenals, their activity increasing according as they approach the chemical structure of epinephrin. One of the most interesting of all these newly investigated products is hydroxyphenylethylamin, which can readily be prepared from the protein cleavage derivative tyrosin by splitting off carbon dioxid from the molecule of the latter. This reaction can be brought about by putrefactive bacteria; and in truth hydroxyphenylethylamin has been detected among the products of the putrefaction of proteins and identified by Barger among the pressor principles yielded by putrid meat.[1] The same base was found by Barger to be responsible for some of the characteristic physiologic activities of ergot preparations.[2] Unexpected evidence that hydroxyphenylethylamin can actually arise as a product of metabolic transformation in animal organisms has arisen in the unique discovery by Henze in Naples that the poison secreted by certain cephalopods is in fact this aromatic organic derivative of tyrosin.[3] It is well known that in catching their prey cephalopods make use of a highly active poison which is produced by the so-called salivary glands of these invertebrates. Crabs, which they are prone to attack, are speedily impaired by this glandular poison, which was formerly erroneously believed to be of the nature of a toxalbumin. Nothing could be more illustrative of the great progress of biochemistry in recent years than the interesting relationships which it has revealed. Meat rots and yields a putrefactive product that is toxic, that is, produces with small doses marked physiologic manifestations; ergot develops as the result of growth and furnishes the same compound, long devoted to pharmacologic uses; and the glandular tissues of animals which poison their prey secrete it likewise. In each case we may easily assume that it has arisen by simple chemical reaction from the proteins, the fundamental step being imitated by the chemist when he in turn prepares the same substance in his laboratory from the innocuous tyrosin. Our poisons and our drugs are in many instances the close relatives of the harmless compounds that represent the intermediate steps in the daily routine of metabolism.

1. Barger, G., and Walpole, G. S.: Isolation of the Pressor Principles of Putrid Meat, Jour. Physiol., 1908, xxxviii, 341.
2. Barger, G., and Dale, H. H.: Ueber Mutterkorn, Arch. f. exper. Path. u. Pharmakol., 1909, lxi, 113.
3. Henze, M.: p-Oxyphenyläthylamin, das Speicheldrüsengift der Cephalopoden, Ztschr. f. physiol. Chem., 1913, lxxxvii, 51.

FOREIGN COMMENT ON THE FRIEDMANN TREATMENT

German medical journals seldom express opinions on any question, and still less frequently, for some reason, on therapeutics. It is, therefore, worthy of note that the Friedmann remedy has called forth a warning from one journal, the *Therapie der Gegenwart*. A recent issue[1] contains a critical review by F. Klemperer, of the so-called clinic conducted by those favoring the Friedmann treatment, a report of which has been widely circulated in this country. In connection with the publication of Klemperer's article, the editor says:

> I have received a large number of inquiries asking whether I advise the use of Friedmann's remedy in general practice. I consider it a duty, therefore, not to refrain from stating my personal stand on the question. According to my opinion, general practitioners as yet have no occasion to use the new remedy in their practice. The method can by no means be regarded as having been tested; all the commendation of it proceeds from one side. Those who lived through the tuberculin era and have watched the development of tuberculin since will tranquilly wait. Personally I do not regard its theoretical foundation as by any means sufficiently established. I do not regard it as necessary to explain my theoretical hesitation any further, the more so as the decision as to the value or worthlessness of the remedy will in a reasonable time be determined by the therapeutic trials, which will now be instituted everywhere in hospitals and clinics. The task of trying out the new remedy under calm observation belongs to these institutions. It is not yet ripe for general practice, and the general practitioner can incur no reproach if he holds aloof for the present.

In view of the extreme reluctance on the part of German journals to say anything derogatory regarding German products, the caution quoted above is significant.

PARTICIPANTS IN FRAUD

This is from an editorial, "Square Deal Advertising," in the Chicago *Tribune*, December 19:

> The paper that sells publicity to a known fraud is a partner in the fraud, and deserves to be punished for its part in the fraudulent transactions in the profits of which it participates. Against their joint deceit the public ought to be protected.

This quotation is respectfully referred to the two hundred and fifty medical journals in the United States that "sell publicity" to manufacturers of products that have been shown to be absolute frauds.

HONEST CRITICISM WELCOME

It sometimes happens that a good paper offered for publication is returned and one not so good is accepted. Often, to the minds of individual readers, an editorial strikes a discordant note. The proceedings of one society seem to receive undue attention, and those of another, perhaps more important, too little. The abstracters for the Current Literature Department, examining hundreds of journals monthly, at times slight an issue of one journal and give disproportionate space to another. All these things at times occur, for none among us is exempt from his share of human imperfection. Almost as soon as we have noted our own slip or error, the criticisms begin to reach us, some with harsh censure and satire, and some with helpful and kindly words. Even from the bitter husk of the hastiest and most virulent invective we try to extract the kernel—if there be any—of sound criticism. But, like the rest of humankind, we give most heed to and gain most help from fair-minded criticism, written in a kindly spirit of helpfulness and with an evident desire to aid. To the writers of such comments we owe hearty thanks. They are an inspiration to work and a stimulus for continued endeavor to do the best we can to meet the needs of all.

1. December, 1913, p. 557.

Medical News

ALABAMA

Personal.—Dr. Samuel F. Nash, surgeon of the Southern Steel Company at Virginia Mines, has resigned and located at Bessemer.——Dr. Francis A. Webb, Calvert, who has been ill at the Mobile Infirmary, is reported to be improving.

Hospital News.—Cunningham Hospital, Ensley, has been leased by the Tennessee Coal, Iron and Railroad Company which will employ its own physicians and conduct the institution.——Plans for the erection of a hospital at Ensley were decided on November 28 at a meeting of physicians at which a hospital organization was formed with Dr. William H. Wynne as chairman and Dr. Merit D. Clements as secretary.

New Officers.—Walker County Medical Society at Jasper, December 12: president, Dr. Allen M. Waldrop, Cordova; secretary-treasurer, Dr. James L. Sowell, Jasper.——Mobile County Medical Society at Mobile, December 13: president, Dr. Ruffin A. Wright; secretary-treasurer, Willis W. Scales (reelected), both of Mobile.——Marengo County Medical Society at Linden, December 13: president, Dr. James B. Whitfield, Demopolis; secretary, Dr. Guy J. Dunning, Linden.——Colbert County Medical Society at Tuscumbia, December 13: president, Dr. William H. Greer; secretary-treasurer, Dr. Julius T. Haney, both of Tuscumbia.——Bibb County Medical Association at Centerville, December 12: president, Dr. M. C. Thomas, West Blockton; secretary-treasurer, Dr. Horace L. Cunningham, Centerville.——Barbour County Medical Association at Eufaula, December 12: president, Dr. W. R. Belcher, Baker Hill; secretary-treasurer, Dr. Joseph W. Fenn, Eufaula (reelected).——Chambers County Medical Society at Lafayette, December 11: president, Dr. Benjamin F. Rea, Jr. (reelected).

ILLINOIS

Society Scores Quacks.—At the regular bimonthly meeting of the Rock Island Medical Society held in Rock Island, December 9, resolutions were adopted endorsing the publicity campaign directed against quacks and quackery and disapproving of the publishing of physicians' names in connection with accident, operations and other medical work.

Personal.—Dr. Daniel Lichty has been elected president, Dr. Harry A. Pattison, secretary, and Dr. William E. Park, treasurer of the Rockford Public Tuberculosis Hospital trustees.——A farewell reception was given Dr. and Mrs. George A. Zeller at the Peoria State Hospital, December 18.——Dr. Fred G. Warner, Grafton, has been appointed surgeon in Jersey County for the Mississippi Power and Transmission Company.

State Health Board Attorney Shot.—The members and officials of the State Board of Health have frequently been threatened, but on December 4, Charles Alling, attorney for the board, was shot in his office in Chicago by a man who had been convicted three times of practicing medicine without a license and who afterward killed himself. Mr. Alling's injuries necessitated the removal of the right eye and he is now said to be doing well.

Civil Service Commission Medical Board.—The State Civil Service Commission has named a permanent medical board to have charge of its medical examinations in the future. The board consists of Dr. James B. Herrick, Chicago, chairman; Drs. Thomas H. Culhane, Rockford, and Dean D. Lewis, Chicago, surgery; Drs. George F. Suker and William D. Napheys, Chicago, medicine; Dr. Ludvig Hektoen, Chicago, pathologist, and Drs. James C. Gill and L. Harrison Mettler, Chicago, and Harold D. Singer, Hospital, nervous and mental diseases.

New Officers.—Alexander County Medical Society at Cairo, December 18: president, Dr. Samuel Dodds; secretary-treasurer, Dr. James W. Dunn, both of Cairo.——Danville Physicians' Club, December 18: president, Dr. Elbert E. Clark; secretary-treasurer, Dr. Otto H. Crist.——Streator Medical Association, December 18: president, Dr. George K. Wilson; secretary, Dr. F. Lloyd Bronson, Streator.——Will County Medical Society at Joliet, December 17: president, Dr. Aloysius J. Lennon; secretary-treasurer, Dr. Marion K. Bowles, both of Joliet.——Peoria City Medical Society, December 16: president: Dr. Sumner M. Miller; secretary, Dr. Elbert W. Oliver (reelected).——Whiteside County Medical Association at Morrison, December 11: president, Dr. Herbert Leroy Pettitt, Morrison; secretary-treasurer, Dr. Francis J. Conroy, Sterling.

Chicago

Praise for Administrative Officer of Hospital.—A dinner was given in honor of Albert M. Day, president of the board of managers of the Presbyterian Hospital by the medical staff of the institution, December 22, to celebrate the completion of the additions and enlargements of the hospital. During the proceedings, an oil portrait of Mr. Day was presented to the hospital managers by the staff. Addresses eulogistic of Mr. Day were made by Drs. Frank Billings, J. Clarence Webster and Ludvig Hektoen, Rev. John T. Stone and Mrs. Helen McMillan.

Three Isolation Hospitals Planned.—The propaganda committee of the Chicago Medical Society proposes the erection of three new contagious disease hospitals to be located on the south, north and northwest sides of the city, respectively. It is proposed to make a charge for patients able to afford to pay for hospital service. The first step in the education of the public suggested by the committee is lectures in schoolhouses and churches, where members of the society will discuss health subjects with the people and answer questions that may be asked.

MAINE

Personal.—Drs. Harold J. Everett, Philip P. Thompson and Alfred Haskell have returned from Europe.

Sanatorium Burned.—The sanatorium of the Bangor Anti-Tuberculosis Society, 2 miles from the city, was totally destroyed by fire with its contents, December 1, with a loss of $5,000.

New Officers.—Cumberland County Medical Society, December 19: Dr. J. Madison Taylor, Philadelphia, read a paper on goiter; Dr. Bertrand F. Dunn was elected president and Dr. Adam P. Leighton, Jr., Portland, secretary.——Knox County Medical Society at Rockland, December 10: president, Dr. F. B. Adams; secretary-treasurer, Dr. H. W. Frohock, South Thomaston.

NEW YORK

Hospital Quarantined.—The Nassau Hospital at Mineola, L. I., has been under quarantine for the past week owing to an outbreak of diphtheria among the patients and nurses. The disease is said to be under control and the quarantine will probably be raised within a few days.

Prize Essays.—The committee on the award of the Merrit H. Cash prize, which is awarded every two years to a member of the Medical Society of the State of New York, announces that this prize will be awarded in 1914.——The Lucien Howe Prize amounting to $100 each year. The essay must be on a subject pertaining to ophthalmology. The essays must be sent to Dr. Albert Vander Veer, 28 Eagle Street, Albany, N. Y., not later than March 1, 1914.

Unique Method of Making Milk Examinations.—The *Monthly Bulletin* of the New York State Department of Health contains the Rochester Health Report for the year 1912 in which a unique method of recording milk examinations is described. It is the work of Dr. George W. Goler, Rochester, and is as follows:

> Disks of cotton containing the sediment are placed in the covers of the original tin boxes in which they are collected. The cover has the name of the producer, date of collection and name of retailer on it. The boxes with their contents are dried in the incubator and are then pasted on rectangular sheets of glass 8½ by 6 inches. These sheets of glass are then filed in a specially made filing cabinet, each retailer having his producers filed on one or more sheets of glass. A tally-book serves to show the number of the retailer and his list of producers. At the outside of the health office is an iron cabinet with a glass front in which a number of these glass slides are posted, and those interested are invited to inquire at the health office for their milkman's record. When an inquiry is made, not only the cotton disk with the sediment is shown, but the report of his dairy, his producers, the bacteriologic count, the temperature of his milk; in fact, his whole record is exhibited to the inquiring consumer.

New York City

Harvey Society Lecture.—The next lecture in the ninth course of Harvey Society lectures will be given at the New York Academy of Medicine, January 17, when Prof. Victor C. Vaughan, University of Michigan, will lecture on "The Etiology of the Infectious Diseases."

Insurance Company Opens Sanatorium.—The Metropolitan Life Insurance Company has opened its new sanatorium for the care of employees afflicted with tuberculosis. The institution is located at Mount McGregor, N. Y., 1,200 feet above sea level on a site embracing 420 acres.

Social Service Work for State Hospital.—Funds have been secured for the establishment of a social service department in connection with the Long Island State Hospital for the Insane, Brooklyn, N. Y. A social worker has been employed for the purpose of preventive care and "follow-up" work among the insane in the City of Brooklyn.

New Hospital Opened.—The new Herman Knapp Memorial Eye Hospital at Fifty-Seventh Street and Tenth Avenue, which houses the old New York Ophthalmic and Aural Institute which was founded by Dr. Knapp in 1869, was opened December 12. The building is seven stories in height and is the last word in hospital architecture and equipment that science and money can provide. The building was constructed by the trustees in memory of Dr. Knapp by funds collected for that purpose.

Municipal Health Exhibit.—The Department of Health opened its first permanent municipal health exhibit in this city, December 17, on the fifth floor of the Health Department building. The exhibit had its origin in the budget display of last year and consists of displays showing the work of the various bureaus of the Health Department, among them being a children's hospital ward and one of the tuberculosis sanatorium at Otisville. Among speakers on this occasion were Dr. Stephen Smith, health commissioner from 1868 to 1875; Dr. Abraham Jacobi and Prof. Charles F. Chandler, commissioner from 1879 to 1883.

Social Hygiene at Columbia.—The first report of an investigation that has been in progress for a year in regard to the sanitation, food and social hygiene of students has been presented by Dr. William H. McCastline, the health officer of Columbia University. The report shows that there have been few cases of contagious or infectious disease and that the number of students who have been willing to come for consultation in regard to moral problems is most gratifying. It is affirmed that as a class Columbia men are of excellent principle and high moral caliber. Dr. McCastline has organized a student board of health, whose duty shall be to improve the eating houses and restaurants in the vicinity of the University. Two courses in social hygiene have been arranged, one for the freshman year, which shall cover all the facts that a young man should know in relation to personal and social hygiene, and one for the senior year which shall have for its object the presentation of facts that will enable the men to appreciate their obligations as men to society and the home.

NORTH CAROLINA

New Officers.—Buncombe County Medical Society's eighteenth annual meeting at Asheville, December 15: president, Dr. Paul H. Ringer; secretary-treasurer, Dr. Gaillard S. Tennent, both of Asheville.

Patients Erect Monument to Physician.—From the voluntary offerings of former patients in the community in which he practiced in Sampson County, a handsome monument has been erected to Dr. Charles S. Kerr, Kerr, N. C., who died two years ago.

Personal.—Dr. Lucius N. Glenn, Gastonia, has been appointed a director for the City Hospital for the Insane, Morgantown.——Dr. H. L. Pitman has returned to Fayetteville, where he will be associated with Dr. Jacob F. Highsmith and will take charge of the laboratory and electrical work of the Highsmith Hospital.

PENNSYLVANIA

Antispitting Campaign.—Members of the Women's Health League of Pittsburgh were stationed in the principal streets December 19, to enforce the antispitting ordinance. Arrests were made of all offenders. This ordinance was passed several years ago, and in spite of signs on every block, has never been observed.

New Officers.—Carbon County Medical Society: president, Dr. Lewis W. Moyer, East Mauch Chunk; secretary, Dr. Calvin

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J. Balliet, Lehighton.——At the annual meeting of the Bucks County Medical Society, November 12: president, Dr. William C. LeCompte, Bristol; secretary-treasurer, Dr. Anthony F. Myers, Blooming Glen.

Personal.—Dr. Frederick W. Brown has been elected mayor of Franklin.——Dr. Gregg A. Dillinger was recently elected a member of the city council of Pittsburgh.——Dr. Samuel A. Woods, Sharon, who was recently operated on, is recovering. ——Dr. George W. Kennedy, Sharon, was recently operated on for a stone in the kidney in Cleveland.

Coatsville Water-Supply Held Up.—The plan to establish in Coatsville a modern water-supply, which was voted for by the taxpayers in August last, and to cost $185,000, has been held up by the State Health Department. The reason for this delay is due to the fact that the authorities at Coatsville did not consult nor have the approval of the State Health Bureau of their plans for the new department.

Philadelphia

Election of Officers.—Kensington branch of the Philadelphia County Medical Society: vice-president of the county society, Dr. Edwin B. Miller; chairman, Dr. William T. Dempsey; clerk, Dr. Harry W. Goos.

Personals.—Dr. James T. Rugh has been appointed Orthopedic Surgeon to the North American Sanitarium, Atlantic City, N. J.——Dr. William C. Posey, who has been suffering with pneumonia, has sufficiently recovered to go to Lakewood, N. J., for convalescence.

Center of Opium Traffic Discovered.—Wholly by accident the headquarters of the opium traffic in Philadelphia were uncovered at Ninth and Vine Streets. There were confiscated more than $1,500 worth of raw opium and more than $100 worth of prepared opium, and two men were placed under arrest.

Memorial Fund for Lectures.—A fund of $10,000 has been given to the College of Physicians for the purpose of offering prizes and establishing courses of lectures on original research in medicine. This fund is given as a memorial of the late Dr. Nathan Lewis Hatfield. The trustees of the fund are Drs. Robert G. LeConte, Norton Downs and Francis R. Packard.

Additions to Hospitals.—The Lebanon Hospital Association has purchased the premises 1728, 30, 32 N. Seventh Street, lot 65 by 82 feet for a consideration of $1,100.——A contract has been awarded for alterations and additions to St. Joseph's Hospital at Seventeenth and Girard Avenue.——Plans are being prepared for additions to the Garretson Hospital at Eighteenth and Hamilton Streets.

To End Dispensary Graft.—The Philadelphia County Medical Society and the Philadelphia County Homeopathic Society have united on a plan to wipe out free hospital and dispensary abuse. Statistics from hospital and dispensary reports show that last year 550,000 patients received free treatment in Philadelphia. At a meeting of the two medical societies next week a more definite plan will be decided on. Already Jefferson and Hahnemann Hospitals have appointed committees to frame prevention methods.

Hospitals Reform Throughout Philadelphia.—Forty physicians, lawyers and business men attended a meeting in Director Joseph S. Neff's office in City Hall, December 10, for the purpose of uniting the fifty-five hospitals and dispensaries of the city in the adoption of an efficiency program. It was pointed out that the cost of maintenance could be reduced about $200,000 by the adoption of such a program. Those present subscribed liberally toward the $7,000 fund to be raised for the purpose of making an efficiency study of the whole hospital situation. This movement of the County Medical Society Commission aims to "outline and chart the proper organization and management of a Central Record Bureau, with subdivisions covering general efficiency departments, accounting bureaus, office methodizing departments, purchase, testing and employment bureaus." Perhaps it would be well to make this bureau, in addition, a "clearing house" as to worthiness of all claimants for free treatment at all hospitals and dispensaries of this medical center. Free treatment of those able to pay adds enormously toward the present financial waste in hospitals in the city.

GENERAL

Fraternity Election.—Dr. Lewellys F. Barker, Baltimore, and Dean John L. Heffron, Syracuse, N. Y., have been elected directors of the Alpha Omega Alpha Medical Scholarship Society. The directors have elected Dr. Russell Burton-Opitz, New York City, president; and Dr. G. Carl Huber, Ann Arbor, Mich., vice-president. Dr. William W. Root, Slaterville Springs, N. Y., continues as permanent secretary-treasurer.

Western Surgical Association.—The twenty-third annual session of the Western Surgical Association was held in St. Louis, December 19 and 20 under the presidency of Dr. Jabez N. Jackson, Kansas City, and the following officers were elected: president, Dr. Byron B. Davis, Omaha; vice-presidents, Drs. Leonard Freeman, Denver, and L. W. Littig, Davenport, Iowa; secretary-treasurer, Dr. Arthur T. Mann and executive committee, Drs. Jabez N. Jackson, Amos W. Abbott, Minneapolis, John P. Lord, Omaha, and Malcolm L. Harris, Chicago.

Seaboard Physicians Hold Meeting.—The eighteenth annual meeting of the Seaboard Medical Society of Virginia and North Carolina was held in Norfolk, Va., December 10 and 11. Goldsboro, N. C., was selected as the next place of meeting and the following officers were elected: president, Dr. J. Rainey Parker, Goldsboro, N. C.; vice-presidents, Drs. George K. Vanderslice, Phoebus, Va., Cicero F. Griffin, Winton, N. C., Robert F. Whitehead, Kempsville, Va., and W. J. Harrell, Aulander, N. C.; secretary, Dr. Clarence Porter Jones, Newport News, Va.; treasurer, Dr. George A. Caton, Newbern, N. C., and orator, Dr. James H. P. Culpepper, Norfolk, Va.

Southern Surgeons Meeting.—The twenty-sixth annual meeting of the Southern Surgical and Gynecological Association was held in Atlanta, December 16 to 18 under the presidency of Dr. John Young Brown, St. Louis. Asheville, N. C., was selected as the next place of meeting and the following officers were elected: president, Dr. John Wesley Long, Greensboro, N. C.; vice-presidents, Drs. Arthur Carroll Scott, Temple, Tex. and James F. Mitchell, Washington, D. C.; secretary, William D. Haggard, Nashville, Tenn. (reelected); treasurer, Dr. Le Grand Guerry, Columbia, S. C. (reelected); and council, Dr. Stuart McGuire, Richmond, Va., Bacon Saunders, Fort Worth, Tex., Rudolph Matas, New Orleans, John M. T. Finney, Baltimore, and John Young Brown, St. Louis.

Warning.—At this time of the year the ubiquitous subscription swindler is abroad working a nefarious game in making collections from unsuspecting victims, as payment for renewed subscriptions. Information has been received that certain individuals are working the medical profession in Ohio, Indiana and Tennessee. By next week these swindlers will probably have migrated to some other territory. Our readers are therefore cautioned to pay money to no one unless the proper credentials are produced. Letters of authority bearing the signature of George H. Simmons and the official seal of the American Medical Association are supplied to the A. M. A.'s representatives. The holders of such letters are the only ones authorized to make collections. Information by telegraph regarding any of these swindlers will be welcome.

Bequests and Donations.—The following bequests and donations have recently been announced:

Methodist Hospital, Philadelphia, $5,000 by the will of George W. Lees.

United Hebrew Charities and Mount Sinai Hospital, New York City, each $10,000; Home for Aged and Infirm Hebrews and Montefiore Home, each $2,500; St. John's Guild and Presbyterian Hospital, each $1,000 by the will of Samuel H. Spingarn.

Little Sisters of the Poor of St. Francis, Society of St. Vincent de Paul, New York City; Sanitarium Gabriels, Gabriels, N. Y.; The Servants for the Relief of Incurable Cancer and Seton Hospital, Spuyten Duyvil, each $5,000 by the will of Francis Higgins.

Nyack (N. Y.) Hospital, $5,000 by the will of Nicholls B. Cushing.

French Hospital, New York City, $1,000 for the support of a bed, by the will of Mrs. J. H. Bacigalupo.

Montefiore Home, $4,500; Mount Sinai Hospital, New York City, $2,500 by the will of William Scholle.

United Hebrew Charities, Hebrew Orphan Asylum, Mount Sinai Hospital, Montefiore Home, and Visiting Guild for Crippled Children, New York City, each $5,000; St. John's Guild and Association for Improving the Condition of the Poor, each $4,000 by the will of the late Ferdinand Hermann.

Presbyterian Hospital, New York City, in gratitude for the care of his late wife, a residuary bequest of $75,697 by the will of Edward O. Kindberg.

Children's Free Hospital, Louisville, and Kentucky Society for the Study and Prevention of Tuberculosis, each about $5,000, and Babies' Milk Fund of Louisville, $2,000 under the will of Samuel K. Bland.

CANAL ZONE

Personals.—Dr. Charles E. Phillips, Ancon, formerly chief of the surgical clinic in Colon Hospital, has resigned to take up private practice in Los Angeles.——Dr. John P. Bates, district physician at Ancon, has resigned and will practice in Greenwood, Miss.——Dr. Oscar R. Troje of the Ancon Hospital staff, has resigned and accepted a position with the Tennessee Coal, Iron and Rail Company in Alabama.——Dr. Edward P. Beverly,

Christobal, district physician at Corozal, has resigned to accept a position in the pension department in Washington, D. C. ——Dr. J. J. McCloom of the Eye, Ear, Nose and Throat Clinic at Colon Hospital has resigned and will practice in the United States.

CANADA

Provincial Medical Meeting.—The annual meeting of the Ontario Medical Association will be held in Toronto May 26 to 28. The plan of making the meeting largely clinical will be adopted which was found so successful in 1912. The president is Dr. Charles F. McGillivry, Whitby, and the general secretary, Dr. Frederick Arnold Clarkson, Toronto.

Physicians Protest Against Increased Telephone Rates.—Physicians in Montreal are up in arms against the action of the Bell Telephone Company of Canada raising their rates which have always prevailed, from $40 a year to $55 a year. They intend carrying their grievance before the Canadian Railway Commission at its Montreal sitting, January 5.

Typhoid at Windsor, Ontario.—Notwithstanding the chlorin treatment of the water-supply of Windsor, the typhoid incidence shows no abatement and the city is threatened with an epidemic. For the past three or four years the annual number of cases in the city has been about fifty and in the county fully one-half of that number. This indicates that the source of the water-supply is getting worse year by year and that the greatest care should be exercised in chlorination as otherwise a serious outbreak may be precipitated at any moment.

Health Officers Busy.—Dr. J. W. S. McCullough, chief health officer of Ontario, has received reports from the several officers of health allotted to different districts in the province. The officer of No. 7 district, which is in northern Ontario, reports that he has looked after the interests of twenty-eight municipalities and has traveled 35,525 miles in doing so. Several epidemics had to be met in the year and many council meetings had to be attended to advise on sewage, waterworks schemes, etc. In addition many lectures were delivered on public health matters.

Deportations.—During the official year 1912-1913, Canada deported for all causes 1,281 persons. For disease the number was 408; crime, 334; public charge, 392; other causes, 147. For tuberculosis the total number was 62; for insanity, 219. In the insane class the largest numbers were from England—69; United States, 43 and Scotland, 26. For tuberculosis the largest number, 29, was from England. The total immigration in the year was 402,432. In addition to the deportations, 756 were rejected at ports of entry, and of this number, 333 were on account of disease.

Headache Powders in Canada.—The Department of Inland Revenue, Ottawa, has recently issued a bulletin on "headache powders." It will serve to do some good as it practically calls the attention of the public to the harm which is done by the indiscriminate use of these powders. After pointing out that headache is merely a symptom of disease, the bulletin further directs attention to the fact that the efficiency of the powders is due to powerful heart depressants, capable under certain conditions to produce fatal results, and in most cases considerable harm. Nearly all of 171 samples analyzed contained acetanilid or phenacetin, and are so marked under the regulations of the Patent Medicine Act. The amount of acetanilid present was over 3 grains. Most of them also contained caffein.

Inspection Tour.—Dr. Helen MacMurchy, the newly appointed assistant to Dr. Robert W. Bruce Smith, Inspector of Hospitals and Public Charities in Ontario, has returned to Toronto from a tour of inspection of the private hospitals in the province and states that this new hospital legislation has proved beneficial to the entire province. One result of the legislation is a stimulation for more hospitals especially in the newer districts of the province; and a decided improvement has already taken place in the maternity branch of the work. Another feature of marked benefit is the establishment of medical cabinets in districts from 50 to 100 miles from the nearest physician. These embody a little more than first-aid requisites but enable medical care to be given for several days and if necessary by any one who will follow the directions.

To Withdraw or Not to Withdraw.—Is the Ontario Medical Association to withdraw from affiliation with the national medical body, the Canadian Medical Association? At the annual meeting of the latter in London last June a notice of motion was presented which called for such withdrawal. An editorial in the December issue of the *Canadian Practitioner and Review* recalls the foundation of the Ontario Medical Association in 1880, the organization at that time was opposed by the Ottawa Medical Society on the grounds that it might be injurious to the interests of the Canadian Medical Association. The particulars of the grievance are that since 1910 the Ontario Medical Association has only been able to hold two annual meetings, as according to the terms of affiliation when the national medical body meets in any one province the annual meeting of the provincial body shall not be held in that year. It is understood also that there has been considerable friction between the executives of the two associations over the financial arrangements. In Ontario there appears to be considerable dissatisfaction with the present arrangements.

Better Housing.—The cause of better housing is proceeding apace in Toronto. The Toronto Housing Company with 166 shareholders, who have together advanced $100,000, have joined in the solution of the problem of better housing of the working people. Some time ago the medical officer of health reported there were 390 houses unfit for habitation; 2,137 houses with two or more families; 198 one-room dwellings; 411 two-room dwellings and 646 three-room dwellings. The Ontario government has unanimously enacted legislation which provides a way by which the cities and towns of the province may to a large extent solve the problem of providing houses at moderate prices for their people. On the passage of this legislation the Toronto city council immediately appropriated $850,000 for the purposes of the Toronto Housing Company. On one block of land $55,000 has been spent in providing homes for thirty-eight families. Recently the corner-stone was laid for the company's cottage flats in the northeastern portion of the city; while land has been acquired in the northwestern part of the city for future operations. Numerous cities and towns in Ontario have begun to organize housing companies.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Dec. 13, 1913.

Sir William Osler on the Medical Clinic

At a meeting of the Abernethian Society at St. Bartholomew's Hospital, Sir William Osler delivered an address on "The Medical Clinic—a Retrospect and a Forecast." He related his personal experiences as a clinician and showed on a screen photographs illustrating the instruction of classes of medical students at the Johns Hopkins Hospital by the examination and treatment of patients in the presence of the pupils. They had to organize the hospital on Continental lines, and different men were placed in charge of different departments. He introduced the system of clinical clerks and dressers, which is regarded here as one of the principal merits of the English system. They adopted the plan of the physician-in-chief who had full control, and appointed his senior assistant and his second and third assistants and a man in charge of the clinical laboratory. That was a direct transfer of the German system. When the medical school opened they took those assistants over as part and parcel of the school, and they organized the outpatient department with men who were also made teachers in the medical department. It was not easy to present the work of the clinic to the students unless there was organization, and so clinical committees were appointed—three or four men who made reports on diseases. Connected with the clinic there must be laboratories which must be equipped sufficiently for the students to do research work. Conditions had changed and were changing. There was a spirit of unrest, and the medical profession was disturbing itself. The question which was worrying people in the medical schools was whether it was possible to graft on the good old English method something similar to that which had been found advantageous in the United States. The teaching of medicine was too complicated now, and it was necessary to bring our university system into the hospital. We had to make medicine and surgery departments of the university, each department with a head who should manage his own department, who would have his own clinic and own assistants. The speaker's attitude was not altogether favorable to the whole-time clinical professor. Osler would rather that the professor spent the greater part of his time on that work, and devoted a limited portion of it to his outside work. But that was a problem that the next generation had to solve.

New Disease in the Sudan

Dr. H. B. Fantham, in the course of a lecture delivered on Friday before the Liverpool School of Tropical Medicine, dealt with the diseases of the Anglo-Egyptian Sudan. The lecturer described his pioneer researches, in company with Dr. Chalmers and Captain O'Farrell, of the Wellcome Laboratory, Khartoum, on a form of bronchitis due to a new spirochete occurring in the respiratory passages of man. This spirochete had not before been recorded from Africa, and very little is known about it. Both natives and Europeans suffer from bronchial spirochetosis, especially after the rains. Relapses are common, but the disease is amenable to treatment. It is widespread, endemic centers having already been found at Khartoum, Omdurman, Kodok and other places.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Dec. 12, 1913.

Death of Dr. Empis

Dr. Empis, former agrégé of the Faculté de médecine de Paris, and former president of the Académie de médecine, has just died, aged 89 years. He was one of the last representatives of that brilliant French clinical school which, toward the middle of the nineteenth century, occupied so important a position in medicine. After publishing many clinical studies on diphtheria, irregular varioles, etc., Empis published in 1865 a work in which he gave a remarkable description of the clinical picture of acute miliary tuberculosis. Two years later he published a work on the statistics of the obstetric services of the hôpital de la Pitié and the measures employed there against puerperal fever. These studies for the first time stated the problem of the contagiousness of puerperal fever and declared the necessity for isolating puerperae so affected and the necessity of using the strictest prophylactic measures against the disease. Empis was elected a member of the Académie de médecine, over which he presided in 1895.

Insufficient Application of the Law with Regard to Compulsory Vaccination

Dr. Camus of the Institut supérieur de vaccine, attached to the Académie de médecine, at the last session of the academy showed some documents which showed that the law was by no means strictly enforced. The figures with regard to deaths from small-pox showed that there is a continual decrease:

1907	2,679 deaths
1908	171 deaths
1909	87 deaths
1910	78 deaths
1911	70 deaths
1912	20 deaths

These remarkable diminutions could not be altogether attributed to scrupulous enforcement of the law. We are at present getting the benefit of the protection afforded by numerous vaccinations formerly made and especially the revaccinations, regularly practiced in the army and in certain schools. Camus has found that in 1911, thirty-eight departments reported a diminution of the number of vaccinations compared with the previous year, and that in 1912 sixty departments showed such a decrease. In the greater number of the departments the law is not applied as it should be, and it is less and less strictly enforced.

To prevent future epidemics of small-pox, which are to be greatly feared in a population continually less immunized, the following measures should be adopted: (1) To enlist the interest of teachers, heads of schools and managers of commercial enterprises; (2) to facilitate the vaccination of women and young girls by setting apart special rooms or hours for their vaccination, since it is among women and young girls especially that vaccination is most frequently refrained from, doubtless because of their fear of promiscuous exposure since the operation requires taking off some of the clothing; (3) to make the prefects instead of the mayors responsible for the enforcement of the law since the former are more independent and therefore in a position to enforce the law with less fear of consequences.

Divorce and Alcoholism

Dr. Ladame of Geneva recently read before the Société française d'eugénique an interesting paper on this subject. Thirty years ago he had mentioned the parallelism between suicide and divorce, which was noticed also by Bertillon and Durkheim. Ladame believes that there is a cause common to these two phenomena, that is, alcoholic intoxication. In the decrees of divorce given at Geneva between the years 1901 and 1910, it seems that, eliminating uncertain cases, out of 1,812 divorces 672, or 37.3 per cent., were caused by alcoholism or drunkenness. The comparative tables of these cases of divorce show that most frequently it was the husbands who drank and that naturally it was the wives who sought divorce. The parallel between the increase of alcoholism and that of divorce in the first part of the period mentioned is apparent; on the other hand, since a tax has been put on alcohol in Switzerland, the number of divorces have diminished.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Dec. 5., 1913.

Personal

Professor Neumann of Giessen has accepted the call to Bonn as successor to Professor Kruse.

Professor Loeffler has been appointed a member of the Prussian state scientific deputation for medical affairs.

Professor Forschbach has been appointed director of the medical university policlinic at Breslau as the successor of Professor Ziegler, who has gone to Freiburg as director of the medical policlinic.

Professor Flechsig, director of the neurologic clinic of Leipsic, has been given leave of absence on account of illness. He will be represented in the conduct of the clinic by Privat-Docent Quensel.

Behring's New Method for Prevention and Treatment of Diphtheria

Further trials of the active immunization against diphtheria with Behring's new preventive remedy, made in the Magdeburg municipal hospital at Sudenburg, are said to have given good results. About 500 children were vaccinated by two assistant physicians of the hospital in six small cities and villages of the district in which diphtheria epidemics were prevalent. As a result, none of these children sickened with diphtheria although the endemic in these localities still continues. Some children were vaccinated only once for special reasons and of these several became ill but only within the first ten days, and among them the diphtheria ran a lighter course than in the other cases. No bad results have been observed from the vaccination in these children.

An International Medical Society in Berlin

Under the title of Internationaler Aerzteverein, an association apparently founded by Russian business men is attempting to secure foreign physicians in medical institutions for the purpose of their further improvement. To this end it is seeking to gain over the directors of foreign German hospitals to assist in its undertaking. The *Deutsche med. Wochenschrift* in its latest number warns against this organization which is evidently concerned in obtaining patients. The board of directors of the association consists of two Chilians, one Greek, one Spaniard and two Russians, none of whom apparently is a physician, and a former military surgeon in Kiev. The treasurer (!) is apparently the only German.

Medical Report on King Otto of Bavaria

Your readers are aware from the newspapers that the Prince Regent Ludwig has assumed legal power in place of the insane king, Otto, who has been deposed. The commission appointed to report on the mental condition of King Otto, consisting of Professor Kräpelin of Munich, Professor Specht of Würzburg and some other physicians, concluded that King Otto of Bavaria was incurably insane and should be deprived of the exercise of his royal power to the end of his life.

Memorial for Robert Koch

December 11, the day on which he would have completed his seventieth year, there was instituted a quiet memorial in memory of Robert Koch by Professor Loeffler, the present director of the institute, in the Robert Koch mausoleum, which, as is well known, is located in the Institute for Infectious Diseases in Berlin. The entire board of directors of the Robert Koch foundation for the campaign against tuberculosis took part in the celebration. Memorial wreaths were placed in the mausoleum by this as well as other corporations, and in honor of the memorial day the *Deutsche medizinische Wochenschrift*, the regular organ of publication of the great bacteriologist, issued a special number to which interesting contributions were furnished by the most noted pupils of Robert Koch, Loeffler, Ehrlich, Brieger, H. Kossel, Uhlenhuth, Pfeiffer, Kolle and others.

Deaths

Brigadier General George Henry Torney, Surgeon General, U. S. Army, died at his home in Washington, December 27, from bronchial pneumonia, aged 63. He was born in Baltimore, June 1, 1850, the son of John P. and Mary M. Peacock Torney. He received his preliminary education at Carroll University, New Windsor, Md., and took his medical course at the University of Virginia, Charlotteville, from which he was graduated June 30, 1870. After an internship of one year at the Bay View Hospital, Baltimore, he entered the U. S. Navy as an assistant surgeon, Nov. 1, 1871; was made passed assistant surgeon, Nov. 1, 1874, and resigned from the Navy, June 30, 1875. On the following day he was appointed first lieutenant and assistant surgeon, U. S. Army; was made captain and assistant surgeon five years later; was promoted to major and surgeon June 6, 1894; to lieutenant colonel Aug. 6, 1903, and to colonel, Medical Corps, April 23, 1908. After serving at several posts, he was detailed to duty at the U. S. Military Academy, West Point, in July, 1894, and continued in this work until May, 1898, when he was ordered to equip and take charge of the U. S. A. Hospital Ship *Relief* and in this capacity serving in Cuba and Porto Rico and the United States until October. At the termination of the Spanish-American War, Dr. Torney was ordered to duty as instructor in hygiene at the Army School, Fort Leavenworth, Kan. In August, 1889, he was placed in command of the Army and Navy General Hospital, Hot Springs, Ark., and continued this duty until November, 1902, when he was sent to the Philippine Islands where he was placed in command of the First Reserve Hospital, Manila, from December, 1902, until July, 1903. On his return from the Philippine Islands in 1903 he was appointed chief surgeon of the Department of California and after four months was placed in command of the General Hospital, Presidio of San Francisco, and served in this capacity from March, 1904, until December, 1908. During this time the San Francisco earthquake and fire occurred and he was placed in charge of the sanitary work of the stricken city, and made there for himself a brilliant record as an administrative officer and a sanitarian. From November, 1907, to December, 1908, he was again chief surgeon of the Department of California and on Jan. 14, 1909, he was appointed surgeon general of the Army on the retirement of Brigadier General Robert M. O'Reilly. General Torney was a Fellow of the American Medical Association, and president of the Association of Military Surgeons of the United States at its Milwaukee meeting in 1911. He was also chairman of the War Relief Committee of the American National Red Cross. In every position in which General Torney was placed, he showed marked efficiency. He was much esteemed by the members of the Medical Corps of the Army; which loses in his death an administrative officer of great merit and a sanitarian of high rank.

GEORGE H. TORNEY, 1850-1913

Peter McKittrick, M.D. Rush Medical College, 1889; a Fellow of the American Medical Association; of Eau Claire, Wis.; died in the Sacred Heart Hospital in that city, December 17, from disease of the throat, aged 47.

Alexander Erskine, M.D. New York University, New York City, 1858; a member of the Tennessee State Medical Association; surgeon of the Fifteenth and Second Tennessee Infantry, C. S. A., during the Civil War; emeritus professor of obstetrics and pediatrics in Memphis Hospital Medical College; dean of that institution from 1868 to 1873; for several terms president of the Memphis and Shelby County Medical Society; died at his home in Memphis, December 13, from senile debility, aged 81.

Edmund L. B. Godfrey, M.D. Jefferson Medical College, 1875; a Fellow of the American Medical Association; for many years a member of the staff of the Cooper Hospital, Camden; at one time president of the Medical Society of New Jersey and secretary of the State Board of Medical Examiners; a surgeon in the National Guard for twenty-nine years, retiring as colonel and assistant surgeon-general; died at his home in South Pasadena, Cal., December 18, from heart disease, aged 63.

Mary M. Arnett, M.D. Hahnemann Medical College, Chicago, 1896; of Boulder, Colo.; who started on a trip around the world a year ago by way of the west, died suddenly in Edinburgh, Scotland, October 12, from heart disease, aged 59.

Alvaro E. Mossman, M.D. Bellevue Hospital Medical College, 1884; a member of the staff of the Haywood Memorial Hospital, Gardner, Mass.; a member of the Massachusetts Medical Society; was found dead in bed, December 19, aged 56.

Frederick Normal Swift, M.D. Long Island College Hospital, 1896; Baltimore Medical College, 1899; a member of the Medical Society of the State of New York; died at his home in Beekmantown, December 5, aged 52.

James Dorr Clyde, M.D. College of Physicians and Surgeons, New York City, 1867; a veteran of the Civil War; formerly a druggist; died at his home in Cherry Valley, N. Y., December 4, aged 70.

Faulkner A. Short, M.D. University of Toronto, Ont., 1902; a member of the Oregon State Medical Association; died at his home in Portland, December 11, from heart disease, aged 39.

Reuben H. Chase, M.D. Detroit Homeopathic Medical College, 1872; formerly of Denver, Colo.; died at his home in Long Beach, Cal., December 10, aged 76.

Henry Banga, M.D. University of Basel, Switzerland, 1875; a Fellow of the American Medical Association; well known gynecologist of Chicago; professor of gynecology in the Chicago Policlinic; dean of the attending staff of Michael Reese Hospital; died while attending a patient in Chicago, December 24, from cerebral hemorrhage, aged 66.

Hugh Cary, M.D. University of Michigan, Ann Arbor, 1894; a member of the Michigan State Medical Society; formerly president of the village of Delray, a suburb of Detroit; a member of the Board of Education and school inspector of Detroit; at one time health officer; died at his home, December 14, from arteriosclerosis, aged 61.

Thomas M. Crosby (license, Mississippi, 1888); a member of the Mississippi State Medical Association and vice-president of the Newton-Neshoba-Winston County Medical Association; of Neshoba; died in Newton, Miss., December 16, from carcinoma of the liver, aged 52.

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Richard G. P. Dieffenbach, M.D. College of Physicians and Surgeons, New York City, 1884; a Fellow of the American Medical Association; treasurer of, and visiting surgeon to the Newark (N. J.) German Hospital; physician to the Home for the Friendless and Hebrew Orphan Asylum; vice-president of the West Side Trust Company, Newark, and a member of the city council in 1884 and 1885; died at his home in Newark, December 17, from cerebral hemorrhage, aged 61.

Frank Edward Agnew, M.D. College of Physicians and Surgeons, New York City, 1885; a member of the Medical Society of New Jersey; a member of the staff of the Paterson General Hospital; attending physician of the Isolation Hospital; formerly city physician of Paterson; died at his home, December 17, from pneumonia, aged 49. The Paterson Board of Health and Passaic County Medical Society, at a meeting, December 17, adopted resolutions of regret and sympathy.

Benjamin Frank Wagenseller, M.D. Pennsylvania Medical College, Gettysburg, 1861; assistant surgeon of the 139th and surgeon of the 158th Pennsylvania Volunteer Infantry during the Civil War; a member of the Medical Society of the State of Pennsylvania and once president of the Northumberland and Snyder County Medical societies; local surgeon of the Philadelphia and Erie and Northern Central railroads; died at his home in Selin's Grove, December 20, aged 5.

Adaline Marshall Watson, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1898; a Fellow of the American Medical Association; formerly president of the Woman's Medical Society of Pittsburgh; physician to the Margaret Morrison School of the Carnegie Institute of Technology, Pittsburgh; a member of the staff of Columbia Hospital, Wilkinsburg; died in a hospital in Pittsburgh, December 17, aged 47.

William Edgar Rice, M.D. George Washington University, Washington, D. C., 1878; formerly a Fellow of the American Medical Association, Association of Military Surgeons of the United States and American Academy of Medicine; acting assistant surgeon, U. S. P. H. Service; city physician of Bath, Me., from 1880 to 1885; died at his home, December 17, from heart disease, aged 61.

John Domingo Fernandez, M.D. Medical College of Virginia, Richmond, 1870; a Fellow of the American Medical Association; one of the organizers and for many years secretary and treasurer of the Florida Medical Association; secretary and treasurer of the Regular Board of Medical Examiners; died at his home in Jacksonville, December 15, from cerebral hemorrhage, aged 65.

William C. Bartram, M.D. College of Physicians and Surgeons, New York City, 1904; a Fellow of the American Medical Association and a member of the staff of St. Luke's Hospital, Newburgh, N. Y.; died at his home in that city, December 17, from septicemia, following an operation wound, aged 34.

John Hunt Crosby, M.D. University of Michigan, Ann Arbor, 1904; a Fellow of the American Medical Association, a well-known practitioner of Plainwell, Mich., and a member of the local school board; died in the Bronson Hospital, Kalamazoo, December 17, two days after an operation for appendicitis, aged 36.

Gary Hosmer Wood, M.D. Long Island College Hospital, Brooklyn, N. Y., 1877; a member of the Medical Society of the State of New York; for five years a member of the general assembly and chairman of the committee on public health; died at his home in Antwerp, December 18, aged 59.

Thomas Chalmers Christy, M.D. Bellevue Hospital Medical College, 1874; a member of the Medical Society of the State of Pennsylvania; a veteran of the Civil War; a practitioner of Pittsburgh until 1900 and thereafter a resident of Pasadena, Cal.; died at his home in Pasadena, December 18, aged 67.

Henry Lorenz Obetz, M.D. Homeopathic Hospital College, Cleveland, 1874; a Fellow of the American Medical Association; professor of clinical surgery in Detroit Homeopathic College; a member of the staff of Grace and St. Mary's hospitals; died at his home in Detroit, December 20, aged 62.

Francis LeBau Parker, M.D. Medical College of the State of South Carolina, Charleston, 1858; formerly professor of anatomy and dean of the faculty of his alma mater; a surgeon in the Confederate service throughout the Civil War; died at his home in Charleston, December 15, aged 77.

Robert A. Smith, M.D. Physio-Medical Institute, Cincinnati, 1870; a member of the Indiana State Medical Association; of New Castle, Ind.; a veteran of the Civil War; died at St. Vincent's Hospital, Indianapolis, December 15, two days after an operation on the bladder, aged 70.

Richard Wisdon Allen, M.D. Bellevue Hospital Medical College, 1872; a member of the State Medical Association of Texas; emeritus professor of diseases of the chest in Southwestern University, Dallas; for many years a railway surgeon; died at the home of his daughter in Independence, Mo., December 21, aged 68.

Harry W. Taggart, M.D. Marion Sims Medical College, St. Louis, 1896; a member of the Medical Society of the State of California; once superintendent of the San Joaquin County Hospital; of San Mateo; died in St. Luke's Hospital, San Francisco, December 14, aged 46.

Eugene Woodworth McCord, M.D. Jefferson Medical College, 1890; for several years a member of the staff of the St. Paul City Hospital; a member of the Minnesota State Medical Association; died at his home in St. Paul, December 21, from cerebral hemorrhage, aged 59.

Byrne E. Robinson, M.D. McGill University, Montreal, 1892; a Fellow of the American Medical Association; died at his home in Arnold, Neb., December 19, from nephritis, aged 48.

William Colby Cooper, M.D. Eclectic Medical Institute, Cincinnati, 1867; for many years editor of the *Medical Gleaner;* died at his home in Cleves, Ohio, December 7, aged 78.

Henry T. Duffield, M.D. Washington University, St. Louis, 1882; of Pittsfield, Ill.; a Fellow of the American Medical Association; died in St. Louis, December 15, aged 60.

James Walter Allen, M.D. Fort Worth, Texas University, 1898; of Newark, Tex.; died in Fort Worth, December 8, after a surgical operation on the kidney, aged 38.

Herbert M. Clapp, M.D. University of Vermont, Burlington, 1890; of Stratford, Conn.; died in Florida, December 12, aged 50.

Marriages

ALLARD MEMMINGER, M.D., to Miss Margaret Aloysius Coleman, both of Charleston, S. C., at Newport, R. I., December 9.

WILLIAM FORREST YOUMANS, M.D., Squaw Shoals, Ala., to Miss Mary Lenora Williams, of Tuscaloosa, Ala., December 23.

ULYSSES SCHUYLER COLFAX BUSCH, M.D., Jennings, Mich., to Miss Edith Bloomquist of Cadillac, Mich., December 17.

COLIN G. ROBERTSON, M.D., Sandusky, Mich., to Miss Florence S. Detwiler of Brown City, Mich., December 17.

LEWIS MINES ALLEN, M.D., Winchester, Va., to Miss Dorothy Gilpin of Baltimore, at Winchester, December 10.

HENRY G. PENNER, M.D., Plymouth, Neb., to Miss Anna Zimmerman of Beatrice, Neb., December 4.

FRANK B. SANFORD, M.D., Morley, N. Y., to Miss Lillian Lawrence of Lisbon, N. Y., December 9.

LEW PAUL MURPHY, M.D., Pasco, Wash., to Miss Harriet Friend of Sheridan, Wyo., recently.

ALEXIS CARREL, M.D., New York City, to Mme. de la Mairie of Paris, France, December 26.

JOHN WILLIAM JONES, M.D., to Miss Carrie Sieber, both of Berkeley, Cal., December 11.

JOHN EDWARD CLARK, M.D., to Miss Evelyn Brogley, both of Streator, Ill., December 10.

CLIFFORD RUSH ESKEY, M.D., to Miss Mae Bogert of Chicago, January 1.

Physiologic Test of Drugs.—Van der Wielen incidentally gave an interesting account of the practical steps taken in Holland to employ digitalis of a definite strength. Sufficient of the plant is grown at Amsterdam for the use of pharmacists in Holland, to whom it is sent out labeled with the result of both physiologic and chemical tests. The medical men are supplied with the particulars of each year's crop, so that they can order whichever supply they may judge to be best suited for the case. The discussion went on for some time, but eventually the section agreed unanimously to the following resolution: The Second Section of the Eleventh International Congress of Pharmacy, having heard the report of MM. Ginzberg and Meulenhoff, expresses the opinion that the principle of determining the therapeutic value of certain drugs by physiologic methods should be adopted whenever the chemical test does not give sufficient indications.—The *Chemist and Druggist.*

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

ODOR-O-NO

A Dangerous "Perspiration Preventive"

A number of inquiries have come to THE JOURNAL regarding the composition of a widely advertised toilet preparation called "Odor-o-no." It is put on the market by the Odorono Company, Cincinnati, Ohio, which has for its president, A. D. Murphey, for its secretary and treasurer, E. G. Murphey, and for its advertising and sales manager, F. J. Rottmueller.

"Odor-o-no" is sold as the "anti dress-shield toilet water." Some of the claims made for this product are:

"Keeps the armpits free, dry and natural."
"Eliminates excessive perspiration. . . ."
"A perfect antiseptic and a superior deodorant."
"Guaranteed by the manufacturer to be absolutely harmless."
"It restores the skin secretions to normal."

Odor-o-no has been extensively advertised and evidently has a large sale. More than a year ago the Indiana State Board of Health warned the public against the use of this preparation. Mr. William D. McAbee, drug chemist of the Department of Food and Drugs, declared that "Odor-o-no" was a solution of aluminum chlorid which, when applied to the skin, would be decomposed and act as a violent irritant. Several instances were reported to have been brought to the attention of the state board in which "Odor-o-no" had caused ulcers.

In the latter part of September of this year an inquiry was received about "Odor-o-no" and the report of the Indiana state chemists was sent to our correspondent. This information apparently did not satisfy the correspondent, who complained that it was a year old and that he understood "the manufacturer of 'Odor-o-no' had made some changes in his formula."

In view of this and the numerous other inquiries received, it was thought worth while to analyze "Odor-o-no" in the Association's laboratory. The chemist's report follows:

CHEMIST'S REPORT

"Two original, sealed bottles of 'Odor-o-no,' manufactured by the Odorono Company, Cincinnati, Ohio, were purchased by the Chemical Laboratory of the American Medical Association, from a local supply house, and subjected to a chemical examination. The bottles contained a rose-scented, red liquid, which was acid to litmus paper. The specific gravity of the liquid was 1.16. The following constituents were demonstrated to be present: aluminum, sodium, chlorid (traces of sulphate) and a red dye.

"The quantitative relations were found to be as follows:

Aluminum (Al)	3.38 per cent.
Chlorid (Cl)	14.12 per cent.
Sodium (Na)	0.17 per cent.
Water and perfume (by difference)	82.33 per cent.
	100.00 per cent.

"Inasmuch as the solution was acid, the difference between the chlorid found and that calculated from the percentage of aluminum and sodium present, is attributed to free hydrochloric acid. Calculation shows 100 c.c. of the solution to be composed essentially as follows:

Aluminum chlorid ($AlCl_3.6H_2O$)	38.8 gm.
Hydrogen chlorid (HCl)	0.85 gm.
Sodium chlorid (NaCl)	0.48 gm.
Water and aromatics to make	100 c.c.

"A third sealed bottle was purchased Nov. 15, 1913, directly from the manufacturers. Aluminum chlorid was found to be present as the essential constituent in this specimen also, and a trace of sulphate was found. For practical purposes 'Odor-o-no' may be looked on as a 33 per cent. solution of aluminum chlorid (hydrous.)"

SUMMARY

Evidently the rumor that the manufacturers of "Odor-o-no" had changed their formula is without foundation. The stuff is essentially what it was more than a year ago, a solution of aluminum chlorid. When "Odor-o-no" is placed on the skin, the perspiration decomposes it into aluminum hydroxid and hydrochloric (muriatic) acid. The acid of course will attack the skin, while the aluminum hydroxid (or oxid) is apt to clog the pores. The preparation is both fraudulent and dangerous.

THE KANSAS VIEWPOINT

"We hope the physicians of Kansas will not lose sight of the fact that no drug is advertised in the pages of their state journal that has not been approved by the Council on Pharmacy and Chemistry of the American Medical Association. No doubt there are many remedies used by the profession of the state which have not thus been approved, but it should not be so. The Council has no exactions that cannot be met by any honest firm. The Council is the only body which stands as a protector of the medical profession against misrepresentation and fraud on the part of unscrupulous manufacturing chemists. It is, as it were, like a clearing house, which sets the seal of approval on preparations that are offered to the medical profession.

"If a doctor goes to a town where he is not known and asks for credit, he is promptly met with a request for recommendations. His own word is not accepted as evidence of his responsibility. If he wishes to borrow money from a bank, the bank officials may be morally certain that the obligation will be canceled according to promise, but before the money is handed over, your name must be appended to a note and perhaps, too, that of a friend to endorse it. No one takes exception to this fair and business-like way of conducting business.

"Likewise, we should demand that preparations which we are asked to use, shall have the endorsement of the Council, and there is no good and sufficient reason why the manufacturers should offer the slightest objection to the requirement; in fact, the endorsement of the Council should be sought rather than shunned."—H. B. C. in the *Journal of the Kansas State Medical Society.*

AN EXAMPLE OF U. S. PATENT OFFICE WISDOM

As an illustration of the kinds of patents that are issued by the U. S. Patent Office, we give in full a patent granted Dec. 9, 1913. The number is 1,081,069, Serial No. 665,142.

To whom it may concern:

Be it known that I, Alois Viquerat, *doctor of medicine*, a citizen of Switzerland, residing at Lausanne, Canton of Vaud, in the Confederation of Switzerland, have invented certain new and Useful Improvements in Medicinal Compositions, of which the following is a specification.

The present invention relates to a composition which is intended to be used internally and which confers to the organisms immunity against the following microbial infectious illnesses: *diphtheria, pneumonia, typhus, scarlet fever, influenza, septic infections, cerebral-spinal meningitis, syphilis, pest, cholera and tuberculosis; it is also effective in another kind of disease, viz. goiter.* [Italics not in original.—ED.]

This remedial composition or substance does not contain any substances strange to the organism. Therefore the innocuity of the remedy is perfect. The principal of these substances is creatinin; creatinin used alone in the quantity of from 0.05 gram to 0.10 gram is a sure remedy against diphtheria. For all other diseases already mentioned: pneumonia, typhus, scarlet fever, influenza, septic infections, cerebral-spinal meningitis, syphilis, pest, cholera, tuberculosis and goiter, it is preferable to mix with the creatinin two other substances, allantoin and guanidin. The creatinin is the controlling agent but the two others mentioned impart to the creatinin *more efficacy.*

This remedial composition is intended to be taken internally in the form of syrup, pastils, pills or the like. It may for example advantageously be of the following composition: 0.20 part by weight of chemically prepared creatinin, 0.01 part by weight of guanidin, 0.10 part by weight of allantoin, 100.00 part by weight of water. This solution is mixed with a small quantity of an excipient substance such as for instance acid pulp of tamarind or

a few drops of lemon juice or an organic acid, for example malic or tartaric or citric or succinic acid and the like. Sugar may also be added. The acids are employed for acidulating the paste of the pastils or other forms of the remedy in order to prevent the creatinin from being converted into creatin which has no efficacy at all.

It is to be understood that I do not confine myself to the above mentioned proportions, although those given I have found from practice to give the best results.

I claim as my invention:

1. A medicinal composition for internal use containing chemically prepared creatinin, guanidin and allantoin.

2. A medicinal composition for internal use comprising the following ingredients: 0.20 part by weight of creatinin, 0.01 part by weight of guanidin, 0.10 part by weight of allantoin, 100.00 parts by weight of water, with which is mixed an excipient substance.

In testimony whereof I have affixed my signature in presence of two witnesses. ALOIS VIQUERAT.

Witnesses:
Rod. De Wurstemberger,
G. Imer.

It appears that the inventor is dead, and that his estate took out the patent. Since this great benefactor should have been, by the use of his preparation, immune to practically all diseases, he must have died of senility, although this seems hardly to have been the case. Assuredly granting patents on such claims ought to be sufficient to show the need of a change in the methods of granting patents—at least of the methods governing the issuance of patents for medicinal products.

DECENCY PAYS

The Phoenix Republican Proves It

"We can't afford to do it!" Such is the plea, or excuse, of the average newspaper carrying fraudulent medical advertising when asked to *drop* this source of revenue. Public opinion is shaping itself so rapidly that the time is not far off when newspapers will find that they cannot afford to *carry* fraudulent advertising. It has been repeatedly shown that where publications have thrown out the fraudulent medical advertisements from their pages they have gained not only in self-respect and in the respect of their readers, but in advertising receipts. More and more is it becoming evident that the decent advertiser favors the paper that caters to decent advertising.

This as a preface to an editorial in the Phoenix (Ariz.) *Republican*, Dec. 14, 1913. It is entitled "New Standard of Newspaper Decency." Here it is:

"When the *Republican*, not quite a year ago, determined to eliminate patent medicine and other objectionable advertising from its columns, it expected no other reward than a satisfied conscience. The management was aware that it was about to cut off a source of considerable revenue, and it did not figure that another would in consequence succeed it. The striking out of this kind of advertising was one way of improving the *Republican*, and newspapers cannot be improved without expense or financial sacrifice.

"Patent medicine advertisements are offensive to a large number of, though not all, intelligent readers. A certain class of such advertisements, those relating to secret diseases and others relating to appliances and mixtures which suggest in themselves only an immoral use, are offensive to all decent readers.

"The *Republican* believed that as the bearer of such messages from advertisers it would not be true to its mission as a family or home newspaper, and it therefore determined that its advertising pages should be purged. Though its action was independent and, in any event, would have been taken, though it stood alone, the *Republican* enlisted in a movement for newspaper reform which is spreading all over the country. A large number of the better known newspapers are now throwing out patent medicine and other offensive advertising, but it is a matter of pride to the *Republican* that it is making a more thorough clean-up than any other secular newspaper of which we have any knowledge.

"The *Republican* has found other reward than the approval of its own conscience. The eliminated advertising has been followed by a considerably increased volume of decent advertising. The patent medicine people used to be tyrannical when the papers were clamoring for their business. They not only insisted on the best positions, but designated the kind of matter that should appear next to their advertisements, and even proscribed other kinds of advertising on the same page. When the *Republican* began throwing out patent medicine advertisements the space thus cleared was taken by legitimate foreign advertising. The patent medicine people are now clamoring to get back into the *Republican* on any terms on 'any old' page. They are willing to leave the matter of position entirely to the foreman.

"The approval of the people of Phoenix and the state has been given this cleaning up of the advertising columns in a much more substantial manner than we expected. As a matter of fact, we had expected no increase of subscriptions in consequence. Yet, within the period in which most of the advertising contracts expired and when they were dropped, there has been a steady and rapid increase in the *Republican's* volume of circulation as was shown in the published statement of yesterday and to-day. The *Republican* is naturally proud of the class of subscribers who have been attracted by this particular improvement.

"The time, we believe, is near when a patent medicine advertisement will be found in no newspaper which prefers any claim to decency. Newspaper times have changed and are changing."

When will the medical profession demand of its own publications the same regard for decency and truthfulness in advertising that public opinion is requiring of lay publications!

A CONTRAST

Our readers will be interested in comparing the attitude of two drug manufacturers toward the recent scientific investigation of natural and synthetic salicylates by the Council on Pharmacy and Chemistry. The Merrill Company meets the facts which were unfavorable to their claims by the familiar weapons of innuendo and abuse. The following excerpts are taken from the *Therapeutic Digest*, the house organ of Wm. S. Merrill Chemical Company for November, 1913:

> After the publication of a number of articles in THE JOURNAL by laboratory workers more or less closely associated with the Council on Pharmacy and Chemistry, a final statement has been issued in the usual form and pomp of authority characteristic of that body, "that there is no difference in the action of salicylates, and that the statements that differences exist are unfounded."
>
> No objection can be made to the members of the Council holding whatever opinion or reaching conclusions that may seem to them wise in the light of their limited experience. The Council is, however, never satisfied with an expression of its own views, but must force them onto others whose experience may contradict them, and it denies expression of the opposing view in the pages of THE JOURNAL. . . .
>
> For the blind followers of the Council the question of the salicylates seems to have been finally settled by this medicopapal bull, but for the independent and self-respecting physician no question can be settled by the autocratic edict of a self-constituted authority. . . .
>
> The recent dictum of the Council as to the salicylates is said to be based on clinical experience as well as laboratory experiments, but the experiences themselves are kept profoundly secret.

The falsity of the last statement is shown by the fact explained in Dr. Hewlett's paper in THE JOURNAL, Aug. 2, 1913, p. 320, that the summaries of these cases have been published in reprints of Dr. Hewlett's article and are available to any one on receipt of a two-cent stamp.

In contrast to the foregoing, it is gratifying to read the following fair reference to the results of the Council investigation in *Lloyd Brothers' Bulletin:*

> We have always asserted that the superiority of natural salicylic acid, if it be superior to the artificial, depends on the presence or absence of by-products peculiar to each. The Committee on Therapeutic Research of the Council on Pharmacy and Chemistry, through Dr. W. A. Puckner, secretary, has decided as follows (see JOURNAL, A. M. A., Sept. 20, 1913, p. 979):
>
> "1. Contrary to certain statements in the older literature, there is no difference in the toxic dose for animals between 'natural' sodium salicylate, the most highly purified synthetic, and the cheapest commercial sodium salicylate on the market.
>
> "2. The evidence for the claimed clinical differences, as found in medical literature, is extremely unsatisfactory and inconclusive.
>
> "3. No significant chemical impurities are present in commercial synthetic salicylate.
>
> "4. No difference can be detected clinically, either in the therapeutic or toxic effects, if the comparison is made under conditions which strictly exclude personal bias.
>
> "The Council therefore concludes that there is no difference in the actions of 'natural' and synthetic salicylates, and that statements that differences exist are unfounded."

Correspondence

A Well-Merited Honor to Julius Hirschberg of Berlin

To the Editor:—Julius Hirschberg was 70 years old, September 18. His friends, pupils and colleagues joined in celebrating the event by the publication of a selection from his medical writings from 1868 to 1912 in a stately volume of almost 900 pages, a volume splendidly arranged and most useful for reference and for study (Julius Hirschbergs ausgewählte Abhandlungen (1868-1912) zu seinem 70. Geburtstage, Ihm ueberreicht im Namen seiner Schüler von Oscar Fehr und Wilhelm Mühsam, Veit & Co., Leipsig, 1913).

On the evening of September 18 a banquet was arranged in Dr. Hirschberg's honor in Berlin, and on this occasion a medallion was presented to him. Among those who subscribed to this testimonial was the Section on Ophthalmology of the American Medical Association, of which Dr. Hirschberg has been an honorary member since 1905. The medallion (6 by 8 cm.) is a work of art and presents a striking likeness of Dr. Hirschberg. On the reverse is a beautiful design showing Ophthalmic Science raising the veil from the blind.

Medallion to Julius Hirschberg: obverse and reverse.

On one side the royal palace at Berlin is seen in the distance, on the other the old eye clinic, which is familiar to so many American ophthalmologists. In the corner below are stacked up the more important works which Hirschberg has published.

It is gratifying to his friends that the American profession through the Section on Ophthalmology participated in showing honor to this veteran of ophthalmology.

HARRY FRIEDENWALD, M.D., Baltimore.

The Misuse of Scientific Articles by Proprietary Manufacturers

To the Editor:—Some years ago I read a paper before the Harlem Medical Association concerning "Conjunctivitis and Its Treatment." The Dios Chemical Company of St. Louis has made use of this article in advertising its product, "Palpebrine." While the company makes no statement to the effect that I indorse the preparation, it is evident that both physicians and laymen get the impression that my paper is in the nature of a testimonial of "Palpebrine."

The facts are, I do not use "Palpebrine," do not know its composition, and would not use it if I did know. To my mind such preparations are altogether unnecessary. I wrote to the Dios Chemical Company, protesting against this use of my paper and received word from it to the effect that no more pamphlet reprints of the paper would be sent out.

FRANK VAN FLEET, M.D., New York City.

COMMENT.—The misuse of scientific articles by proprietary manufacturers is not so common to-day as it used to be, but as Dr. Van Fleet's letter shows, the practice is evidently not entirely obsolete. If every physician whose name is used as an advertising asset by nostrum manufacturers would protest, this particular evil could be entirely abolished.

Activity of Parke, Davis' Detail Men

To the Editor:—A representative of Parke, Davis & Company, either of his own accord or in accordance with instructions, is making certain statements to the physicians of this district that are, it seems to me, worthy of consideration. He states that the Council is composed of a body of men who are, for purely personal reasons, hostile to P. D. & Co., and that they at one time said that they "would get P. D. & Co.," that P. D. & Co. had only recently prevented them from making a report on a sixteen-year-old sample of fluidextract of ergot, P. D. & Co.; that some time ago the Council had requested P. D. & Co. to submit an unstandardized sample of fluidextract of digitalis, U. S. P., for examination, but at the same time had permitted H. K. Mulford & Company to submit their standardized product not made in accordance with the U. S. P., and that a report published some time ago in THE JOURNAL was on different fluidextracts, and not U. S. P. extracts, and, finally, that P. D. & Co. were an immensely wealthy concern hiring the best experts that money could get; that they paid no attention to the Council and proposed to destroy it.

I am inclined to believe that this is a part of a well defined campaign of education (?) that is being carried on by the employees of P. D. & Co. wherever they may be, and that the attention of the profession should be called to it.

J. C. STONE, M.D., Wayland, Iowa.

The Quality of Drugs Sold to Dispensing Physicians

To the Editor:—The following letter, signed "Frank G. Ryan, President," has been sent to medical and pharmaceutical journals by Parke, Davis & Co.:

"Will you do us the kindness to read pages 858 and 859, JOURNAL of the A. M. A., September 13? Notice the slurring statement that our Fluid Extract Digitalis, U. S. P., is only 57.66 + per cent. potent.

"A glance at the enclosed labels will show you that we market two fluid extracts of Digitalis—one, No. 597 (which was NOT tested by Puckner and Hatcher), F. E. Digitalis, P. D. & Co., which is PHYSIOLOGICALLY STANDARDIZED AND STRONGLY ALCOHOLIC; the other, No. 209, F. E. Digitalis, U. S. P., which is not physiologically standardized. Observe the very explicit language of the 'Note' at the foot of each label. Could anything be plainer or more definite?

"In Dr. Puckner's tests he includes—doubtless for good and sufficient reasons of his own—our F. E. Digitalis, U. S. P., which we market only in deference to an existing demand, but the superior product which we standardize physiologically, and which we expressly recommend as more reliable and active than the official, he omits wholly from his comparison.

"We contend that the official menstruum is not the one best fitted properly to extract the drug; that the fluid extract made by use of the official menstruum deteriorates rapidly; that this menstruum is inferior to the one we use for our F. E. Digitalis, P. D. & Co., No. 597; and that the U. S. P. extract does not come up to our own standard as represented by the last-mentioned product. We do claim, however, that our F. E. Digitalis, U. S. P., is made from the best quality of drug in strict harmony with the official process. We do not standardize it; we have never pretended to.

"Furthermore, Dr. Hatcher's 'cat method' of testing Fluid Extract Digitalis is rejected by Edmunds and Hale, whose opinion of the 'cat method' is unquestionably shared to-day by the vast majority of competent pharmacologists: see Bulletin No. 48, issued by the Hygienic Laboratory of the U. S. Public Health Service."

One of Parke, Davis & Co.'s house organs, the *Bulletin of Pharmacy*, in its issue for December, 1913, p. 486, contains a similar statement. From this I quote:

"W. A. Puckner, the chemist of the American Medical Association, contributed a paper to a recent number of THE JOURNAL of the A. M. A., reporting among other things upon an examination made of various fluid extracts of digitalis upon the American market. . . . Parke, Davis & Co. was one of the four manufacturers involved, and its fluid extract was said to be only 57.66 per cent. of the standard. We are informed by that house [the reader should bear in mind whose journal it is that is speaking], however, that for two reasons the findings of Dr. Puckner are grossly unjust and fallaciously misleading."

According to reports which I have received, Parke, Davis & Co.'s detail men appear to have taken their stock arguments from the matter quoted above. Parke, Davis & Co. have thus attempted to create the impression that I discriminated against them in the paper referred to—"The Quality of Drugs Sold to Dispensing Physicians." Specifically, they complain that this examination included their regular U. S. P. Fluid Extract of Digitalis, but did not include their own special, non-official preparation.

As Parke, Davis & Co. seem to have misunderstood the principles which governed the selection of the drugs for the examination, and as those who received their letter or listened to the firm's detail men may be misled, I wish to emphasize that the examinations reported on in my paper were in no way concerned with any firm's special or proprietary preparation, but dealt only with the regular, non-proprietary, standard, official drugs. The principle on which the drugs were selected was to obtain those that the physician would have obtained had he written a prescription or sent to the source of his supplies. Thus, in the case of fluidextract of digitalis the regular U. S. P. title was used in ordering all of the brands, the order reading "Fluid Ext. Digitalis, P. D. & Co." "Fluid Ext. Digitalis, Mulford," etc. The examination of the fluidextracts of digitalis was an attempt to learn the quality of the market supply—the kind which the druggist, the physician and the patient would get. I must say, however, that I was surprised to learn that Parke, Davis & Co. should permit a preparation of digitalis to leave their establishment without biologic control. I am all the more surprised in view of this statement, found in the firm's 1911-1912 catalog (the latest I have):

"All our Fluid Extracts are adjusted to a fixed alkaloidal or other standard; in cases where chemical reactions are not available, as with digitalis, aconite, ergot and a few others, test is made on animals by methods which yield reliable data, not only of quality, but of degree of activity."

Evidently "All our Fluid Extracts" does not include fluidextract of digitalis, U. S. P.

Parke, Davis & Co. contend that the official process is likely to produce a preparation which is weak and unstable, but the labels of Parke, Davis & Co. and the Mulford Company products are practically identical so far as both declare the preparations to be "Fluid Extract Digitalis, U. S. P.," to contain practically the same percentage of alcohol and to have been made at about the same time, the former Sept. 3, 1912, and the latter Nov. 23, 1912.

In this connection it might be pertinent to call attention to another very important fact. While Parke, Davis & Co. are trying to evade responsibility by making it appear that the official fluidextract cannot be expected to be of good quality, at the same time the firm considers itself justified in saying that the U. S. P. tincture may be prepared from it. The following appears on the label of the Parke, Davis & Co. specimen examined:

"Formula Tincture Digitalis, U. S. P.

Fld. Ext. Digitalis, U. S. P.	1 3/5 fluidounces
Diluted alcohol, sufficient to make	16 fluidounces"

If the Parke, Davis & Co. fluidextract of digitalis, U. S. P., is not sufficiently active and reliable to represent the leaf perfectly—and the firm now admits this—it is extremely difficult to understand how they can justify their recommendation to pharmacists that the tincture be made in this way.

The claim that Edmunds and Hale in Bulletin 48 of the Hygienic Laboratory of the United States Public Health Service had rejected Hatcher's "cat method" is unfair because the Hatcher method did not appear until about two years after the publication of this bulletin. It is true that a cat method was reported on, but it was in no way so elaborate or so carefully worked out as the Hatcher method. Although the Hatcher method has not been widely adopted it is generally conceded that by its use the comparative activity of digitalis preparations may be determined correctly.

In conclusion let me say that this investigation of digitalis preparations was made in the interest of the public, the medical profession and scientific pharmacy and medicine; my paper was written, read before a section of the American Medical Association and published solely for the purpose of giving the medical profession the actual facts without fear of, or favor to, any firm, be it large or small.

W. A. PUCKNER,
Director, Chemical Laboratory of the American Medical Association.

Hoffa's Statement as to Determining the Condition of Muscle

To the Editor:—In the article on "The Treatment of Paralysis of Anterior Poliomyelitis" (THE JOURNAL, Dec. 20, 1913, p. 2219) there occurs a statement which is so very inaccurate that it seems to me to require correction. After speaking of the difficulty of determining the power of the muscle by electrical examination, Dr. Frauenthal says, "Hoffa always cut down on the muscle to determine its character." What Hoffa (*Orthopädische Chirurgie*, Ed. 5, 1905, p. 142) really said, in speaking of tendon transplantation, was as follows: "If, in spite of the closest examination, one is not prepared to decide whether the muscle in question is wholly or partly paralyzed, one may obtain information at the operation itself if one exposes not only the tendon but the belly of the muscle itself by a longer incision."

ROBERT W. LOVETT, M.D., Boston.

Stethophone and Stethoscope

To the Editor:—Kindly permit me to say to Dr. Joseph H. Barach of Pittsburgh that "stethoscope" is really a genuine Greek word meaning, exactly, an instrument to *examine* the chest. It appears that Dr. Barach's Greek-English dictionary is imperfect. It is to be regretted that Dr. Barach uses such hybrid terms as "auriscope" and "dictaphone."

A. ROSE, M.D., New York.

Quarantine and Individual Inconvenience.—It is neither the province nor the intention of the Department of Health to give an individual or the public the preference over the other in quarantine matters. This does not always seem so from the individual's point of view in cases of communicable diseases. While quarantine may, in some instances, result in personal invonvenience and often in hardships, yet the safety of the community must be the first consideration. The same measures which work an apparent hardship also serve as a protection. This is a well-established principle in public health administration and has been upheld by the courts. The convenience of the few must be subject to the safety of the many.—Buffalo *Sanitary Bull.*

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SALOMON-SAXL URINE-SULPHUR TEST FOR CANCER

To the Editor:—Please publish in detail the Salomon-Saxl urine-sulphur test for cancer.

O. C. BREITENBACH, M.D., Frazee, Minn.

ANSWER.—For this reaction, dilute 150 c.c. of urine with 100 c.c. distilled water (albuminous urine must first be boiled, treated with a small quantity of acetic acid and carefully filtered); then add 150 c.c. Salkowsky's barium solution (a mixture of 2 parts barium hydroxid solution, saturated at room temperature, with 1 part barium chlorid solution saturated at room temperature). Filter and to the clear filtrate add more reagent to insure complete precipitation. Then the ethereal sulphates are removed from the entire filtrate by adding 30 c.c. hydrochloric acid (specific gravity 1.12), transferring to a 500-c.c. flask, covering with a small funnel and heated to boiling on an asbestos mat, with a small flame, for an hour. The flask is then covered with a beaker and allowed to stand on a water-bath till the supernatant liquid is clear (requiring from four to twenty-four hours). Now filter twice through a double "barium filter," small; wash the flask with sodium hydroxid solution and distilled water; boil again, using same precautions as above, and filter through a double "barium filter." (If there is still more precipitate formed, place the flask on the water-bath again.) Now treat 200 c.c. of the filtrate with 3 c.c. strong hydrogen peroxid solution (perhydrol Merck) and boil fifteen minutes, covering again with the funnel, in the same flask. Now the liquid is poured into a sedimentation glass and then observed in from one-half to four hours. In cases of carcinoma a decided sediment will be observed, while a normal urine may show a trace of such a sediment; as a rule normal urine does not show a sediment in four hours—but some time later a trace of ethereal sulphate not properly removed as above may show. The sediment obtained in case of carcinoma is usually somewhat colored, but this color can be removed by alcohol-ether.

"HYDROCYANATE OF IRON—TILDEX"

To the Editor:—Is it advisable to give "Hydrocyanate of Iron," prepared by the Tilden Company, St. Louis, in a case of epilepsy?

GEORGE F. WAY, M.D., Buffalo, Ill.

ANSWER.—It certainly is not advisable to give this substance if for no other reason than that it is a secret preparation. If we judged from the name, it would indicate that the preparation is a cyanid of iron, and a careful physician would hardly wish to give his patients any form of cyanids; but an examination of this nostrum by the Chemical Laboratory of the American Medical Association showed that it is essentially a mixture of approximately equal parts of talc and Prussian blue, containing traces of organic matter having the general properties of alkaloids. Prussian blue is a remedy that has been used for epilepsy and found wanting; hence its use has been abandoned.

For further information see THE JOURNAL, June 19, 1909, p. 2008.

NOMINATORS AND ADJUDICATORS OF THE NOBEL PRIZE FUND

To the Editor:—Please give me the names and addresses of those who have charge of the Nobel prize awards.

HARRY FEAGLES, M.D., Morton, Wash.

ANSWER.—The president of the board of control administering the Nobel Prize Fund is A. F. C. Wachtmeister, Kungl. Karolinska Medico-Kirurgiska Institutet, Stockholm, Sweden.

Following are the prize adjudicators of the Nobel Prize Fund:

For physics and chemistry: Kungl. Svenska Vetenskapsakademien, Stockholm. The secretary of the commission is Knut W. Palmær, Kungl. Tekniska Högskolan, Stockholm.

For medicine: Kungl. Karolinska Medico-Kirurgiska Institutet, Stockholm. The president of the commission is K. A. H. Mörner, Stockholm.

For literature: Svenska Akademien, Stockholm. The secretary of the commission is E. W. Dahlgren, Stockholm.

For peace: The Norwegian Nobel committee.

Only certain persons are eligible to hand in names of candidates for the various prizes. The following includes those eligible to send in names for the prizes in medicine:

Members of the professional staff of the Karolinska Institutet.

Members of the medical class in the royal academy of science.

Those persons who have received a Nobel prize in the medical section.

Members of the medical faculties at the Universities of Upsala, Lund, Christiania, Copenhagen and Helsingfors.

Members of at least six other medical faculties to be selected by the staff of the Karolinska Institutet in the way most appropriate for the just representation of the various countries and their respective seats of learning.

Scientists whom the said staff may see fit to select. The selections under Sections 5 and 6 shall be made within the first half of September, the initial proposal to emanate from the Nobel committee.

DETRIMENTAL EFFECTS OF ALBUMIN-MILK

To the Editor:—Please refer me to any literature or reports of cases showing detrimental or fatal effects from the use of albumin-milk in acute intestinal disease in infants, following nutritional disturbances from low tolerance of sugars or fat.

P. M., Louisiana.

ANSWER.—Below are given a number of reports by different clinicians on their results with the use of albumin-milk. In nearly every instance the author reports the number of cases treated, the number of cures and the number of deaths:

Beck, Carl: *Jahrb. f. Kinderh.*, 1912, lxxv, 315.

Gruiee, C. G.: Albumin-Milk in Infant-Feeding, *Am. Jour. Dis. Child.*, September, 1911.

Wrede: *Therap. Monatsh.*, 1911, xxv, 83.

Neff, F. C.: Recent Experiences in the Artificial Feeding of One Hundred Infants, THE JOURNAL, Dec. 23, 1911, p. 2068.

Morse, John Lovett: The Use of Malt Sugar and High Percentage of Casein in Infant Feeding, *Am. Jour. Dis. Child.*, November, 1911, p. 315.

Birk: *Monatschr. f. Kinderh.*, 1910, lx, 140.

Nothmann: *Jahrb. f. Kinderh.*, 1910, lxxii, 347.

Chapin, H. D.: The Nutrition of the Feeble Infant, THE JOURNAL, Oct. 22, 1910, p. 1455.

Braunmuller: *München. med. Wchnschr.*, 1910, lvii, 2571.

AUTHORITIES ON TECHNIC OF COUNTING BACTERIA IN MILK

To the Editor:—Please give the most approved technic of counting bacteria in milk.

P. H. M.

ANSWER.—The technic for these methods is too extensive to be reproduced in THE JOURNAL. The number of bacteria will differ according to the method which is adopted. We would suggest reference to the following authorities:

Hyg. Lab. Bull. 56, U. S. P. H. S., p. 437.

Savage, William G.: Milk and Public Health, New York, the Macmillan Company, 1912, p. 177.

Standard Methods for the Bacterial Examination of Milk, by Committees of the Laboratory Section, American Public Health Association, reprinted from *Am. Jour. Pub. Hyg.*, August, 1910.

USE OF ACID SODIUM PHOSPHATE—VALUE OF QUININ IN COLON BACILLUS INFECTIONS

To the Editor:—1. Please discuss briefly the method of administration and dose of acid sodium phosphate when given to acidify the urine.

2. Is there any evidence that quinin sulphate given internally is of value in colon bacillus infections of the urinary tract and other parts of the body?

R. G. D.

ANSWER.—1. Acid sodium phosphate has been admitted to N. N. R., and its uses are described in that work. It is discussed in a Query and Minor Note, Aug. 3, 1912, p. 387.

2. So far as we can learn, there is no evidence that quinin sulphate is of value in colon bacillus infections.

TREATMENT FOR GOITER WITH HIGH-FREQUENCY CURRENT

To the Editor:—Has any success been attained in the treatment of simple goiters with the high-frequency current?

GEORGE S. GILPIN, M.D., Stoutsville, Mo.

ANSWER.—We can find no reference to such treatment in recent literature. A standard work on electrotherapy which was published in 1913 makes no mention of it.

V. 6
1914

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, Jan. 13. Chairman, Dr. W. H. Sanders, Montgomery.

COLORADO: State Capitol, Denver, January 6. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

ILLINOIS: The Coliseum Annex, Wabash Ave. and 16th St., Chicago, Jan. 14-16. Acting Sec., Amos Sawyer, Springfield.

INDIANA: Room 56 State House, Indianapolis, Jan. 13-15. Sec., Dr. Wm. T. Gott, 56 State House, Indianapolis.

IOWA: The Capitol Bldg., Des Moines, January 6-8. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.

MINNESOTA: State University, Minneapolis, January 6-9. Sec., Dr. Thos. S. McDavitt, 814 Lowry Bldg., St. Paul.

NEW HAMPSHIRE: State House, Concord, January 6-7. Regent, Mr. H. C. Morrison, State House, Concord.

NEW MEXICO: Santa Fe, Jan. 12. Sec., Dr. W. E. Kaser, East Las Vegas.

NEW YORK: Jan. 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Albany.

NORTH DAKOTA: Grand Forks, January 6. Sec., Dr. G. M. Williamson, Grand Forks.

OKLAHOMA: Oklahoma City, Jan. 13. Sec., Dr. John W. Duke, Guthrie, Okla.

OREGON: Portland, January 6-8. Sec., Dr. L. H. Hamilton, Medical Bldg., Portland.

SOUTH DAKOTA: Capitol Bldg., Pierre, Jan. 13. Sec., Dr. Park B. Jenkins, Waubay.

VERMONT: Montpelier, Jan. 13-15. Sec., Dr. W. Scott Nay, Underhill.

WASHINGTON: Spokane, January 6-12. Sec., Dr. F. P. Witter, Traders' Block, Spokane.

WISCONSIN: Madison, Jan. 13. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

Pennsylvania's June Examination—A Correction

A recent communication from the office of the Bureau of Medical Education and Licensure of Pennsylvania indicates that, in the report of the June examination published in THE JOURNAL of Nov. 15, 1913, through an error in copying, a failure was charged against Howard University, Medical Department. The candidate who failed was a graduate of the Harvard Medical School.

Michigan October Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, Oct. 14-16, 1913. The number of subjects examined in was 13; the total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 12, of whom 9 passed and 1 failed. Two candidates were conditioned. Seventeen candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Boston University School of Medicine	(1899)	76.8*
Harvard Medical School	(1911)	80.3
University of Michigan, Dept. of Med. and Surg.	(1902)	81.6
Jefferson Medical College	(1912)	85
University of Pittsburgh	(1913)	79
University of Virginia	(1911)	89.8
University of Toronto	(1911)	76.9, 83.7
University Sv. Vladimira, Russia	(1897)	84.6

*Allowance of 19 per cent. for 14 years of practice.

FAILED

Michigan College of Medicine and Surgery ..... (1904) *
Syracuse University College of Medicine ..... (1892) +*
University of Toronto ..... (1913) +*

* No grade given.
+*Conditioned in Chemistry.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Colorado	(1912)	Colorado
George Washington University	(1906)	Maryland
Northwestern University	(1910)	Indiana, (1911) Illinois
Rush Medical College	(1891)	Indiana
University of Illinois	(1912)	Illinois
College of Physicians and Surgeons, Baltimore	(1911)	W. Virginia
University of Maryland	(1909)	Penna.
University of Michigan	(1903)	New York
University of Missouri	(1901)	Missouri
Cleveland College of Physicians and Surgeons	(1911)	Ohio
Cleveland-Pulte Medical College	(1912)	Ohio
Western Reserve University	(1909)	Ohio
University of Pittsburgh	(1908)	Penna.
Vanderbilt University	(1889)	Colorado
Marquette University	(1909)	Wisconsin

Iowa September Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, Sept. 23-25, 1913. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 17, of whom 15 passed and 2 failed. Fifteen candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Bennett Medical College	(1911)	84.2
Chicago College of Medicine and Surgery	(1909) 87; (1913) 83.2; 90.6.	81.9;
Northwestern University	(1911)	87
Rush Medical College	(1913)	88.6
University of Illinois	(1913)	88.6
Kentucky School of Medicine	(1907)	92
Harvard Medical School	(1911)	84.4
St. Louis College of Physicians and Surgeons	(1912)	79.1
Jefferson Medical College	(1903) 88.5; (1913) 81.6; 85.9.	
University of Pennsylvania	(1905)	91.5

FAILED

St. Louis College of Physicians and Surgeons (1906) 69.6; (1910) 59.7.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Colorado	(1911)	Colorado
Flint Medical College of New Orleans	(1904)	Kansas
Baltimore Medical College	(1908)	Maryland
University of Michigan, Dept. of Med. and Surg.	(1912)	Michigan
American Medical College, St. Louis	(1911)	Missouri
University Medical College, Kansas City	(1906)	Missouri
Washington University, St. Louis	(1910)	Missouri
Cotner Medical College	(1913)	Nebraska
John A. Creighton Medical College	(1905) Nebraska; (1911) Nebraska; (1913) Nebraska.	
University of Nebraska	(1913)	Nebraska
New York Homeopathic Medical College	(1884)	Nebraska
Temple University, Medical Department	(1910)	Minnesota
Marquette University	(1911)	Wyoming

Arkansas November Report

Dr. W. S. Stewart, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, Nov. 11-12, 1913. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 25, of which 14 passed and 11 failed. Thirteen candidates were licensed through reciprocity since Aug. 12, 1913. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1910)	80
University of Arkansas	(1913) 75,	80
Kentucky School of Medicine	(1904)	85
Northwestern University	(1911)	92
Rush Medical College	(1881) 75; (1882)	82
Barnes Medical College	(1904)	80
Washington University, St. Louis	(1912)	87
Memphis Hospital Medical College	(1907)	75
University of Nashville	(1906)	76
University of Tennessee	(1901)	82
University of Virginia	(1913)	83
Vanderbilt University	(1913)	80

FAILED

University of Arkansas.. (1911) 65; (1912) 68; (1913) 54, 61, 64.
College of Physicians and Surgeons, Little Rock.. (1910) 36
Louisville and Hospital Medical College ..... (1908) 56
Meharry Medical College ..... (1907) 53; (1912) 55
Memphis Hospital Medical College ... (1911) 58; (1913) 55

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Atlanta College of Physicians and Surgeons	(1913)	Georgia
Southern Medical College, Atlanta	(1886)	Oklahoma
Kansas Medical College	(1913)	Oklahoma
Hospital College of Medicine, Louisville	(1900) Indiana; (1904) Kentucky.	
University of Louisville	(1898)	Texas
Tulane University of Louisiana	(1912)	Louisiana
Maryland Medical College	(1907)	Maryland
Barnes Medical College	(1906)	Oklahoma
St. Louis College of Physicians and Surgeons	(1909)	Illinois
Memphis Hospital Medical College	(1891) Oklahoma; (1896) Texas.	
Marquette University	(1913)	Wisconsin

ANATOMY

1. Give the composition of bone. 2. Describe the radius and name bones with which it articulates. 3. To what class of joints does the ankle belong and what parts enter into its formation? 4. Name the muscles of mastication. 5. Give origin and distribu-

tion of superior, middle and inferior hemorrhoidal arteries. 6. Describe the stomach, giving nerve- and blood-supply. 7. Give the number and names of the lobes and ducts of the liver. 8. Give the contents of Scarpa's triangle. 9. Give the origin, course and distribution of eighth nerve. 10. Name the parts severed in amputation about middle of forearm.

PHYSIOLOGY

1. Give the functions of the (a) cerebrum, (b) cerebellum, (c) liver, (d) spleen. 2. Name the five nerve centers located in the lumbar enlargement of the spinal cord. 3. Name the five ductless glands, and give the functions of each. 4. Name the physical properties of normal urine. 5. What is aphasia? Give the different forms and causes of each. 6. How is heat produced in the body? 7. What is the normal ratio of heart pulsation to respiration? 8. Give the source of the white blood-corpuscles and their function. 9. Describe the functions and secretions of the stomach. 10. What nerve centers regulate body temperature?

CHEMISTRY

1. What is oxygen and how prepared? 2. What is water and how may river water be purified? 3. Define analysis and synthesis. 4. What is the principal solid constituent of urine? 5. What is a carbohydrate? 6. Give two tests for sugar in urine, giving details of one you prefer. 7. What is oleic acid? 8. What is vinegar and with what is it most often contaminated as found in the market? 9. What are proteids and from what are they derived? 10. What are ptomains?

PATHOLOGY

1. Define leukocytosis and give its two varieties. 2. What does leukocytosis with a predominance of polymorphonuclear leukocytes indicate? 3. What are the apparent differences in the throat lesions of diphtheria and follicular tonsillitis? 4. Mention some of the pathological lesions that are sometimes the sequelae of diphtheria. 5. Differentiate a chancre and a chancroid. 6. What pathological lesions are productive of icterus? 7. What abnormal products may be found in the urine as a result of interstitial nephritis and chronic parenchymatous nephritis? 8. By examining the fluid removed by a lumbar puncture, how may we distinguish between tubercular and other forms of meningitis? Without making a bacteriological examination, what microscopical findings would cause you to suspect tubercle bacillus? 9. Name some of the various crystals found in abnormal urine and state their significance. 10. Mention six diseases which may result in enlargement of the lymphatic glands.

BACTERIOLOGY

1. Define bacteria, state how they are recognized. 2. What is essential to the life of bacteria? 3. How do we determine if a certain organism is or is not pathogenic? 4. Define toxins, antitoxins and ptomains. 5. What class of bacteria produce rapid-spreading inflammation, and what class produce localized inflammation? 6. Define opsonins and describe the theory of phagocytosis. 7. How would you do a Widal reaction? 8. Name two methods of staining blood-specimens for malarial plasmodium; also detail method of examining fresh specimens of blood for malarial plasmodium. 9. Detail method of producing and staining specimens of *Spirochaeta pallida*. 10. Name the chief morphologic characteristics of the organisms producing the following diseases: diphtheria, tetanus, anthrax, gonorrhea and cerebrospinal meningitis.

THERAPEUTICS

1. Explain the difference between empirical and rational therapeutics. 2. How do the various diuretics promote the secretion of urine? 3. What is the method of action of disinfectants? 4. Explain the action of the following on the heart: digitalis, nitroglycerin and strychnin. 5. Give the therapeutics of hexamethylenamin (urotropin). 6. Give directions for preparing normal saline solution, and give indications for use. 7. Give the physiological action of opium. Give treatment of opium poison. 8. Give the therapeutic action of the arsenical compounds in common use. 9. Explain the therapeutic action of diphtheria antitoxin. Give after-effects and caution untoward symptoms. 10. What therapeutic agents would you use in the treatment of typhoid fever, and give indications for same.

MATERIA MEDICA

1. Give rule for computing dose for children. State drugs that are an exception to rule, mentioning those that are well tolerated, and those that should be given cautiously. 2. Define alkaloid, glucoside, and neutral principle. Give example of each. 3. Give dose and physiological effect of the following: cocain, strychnin, atropin, pilocarpin and physostigmin. 4. Name five vasodilators and five vasoconstrictors, giving dose of each. 5. How do emetics produce emesis? Name five, giving dose of each. 6. Name the chlorids of mercury, giving general properties and methods of use. 7. Give composition and dose of the following: Fowler's solution, Donovan's solution, Dover's powder, Basham's mixture, and Vallet's mass. 8. What are hypnotics? Name five, giving dose of each. 9. How is anti-meningitis serum prepared? Give dose, method and frequency of each: iodin, salicylic acid, guaiacol, caffeine, and sulphona.

OBSTETRICS

1. Give the physical signs of pregnancy by the following classifications: (1) uterine, (2) vaginal, (3) abdominal, (4) mammary, (5) fetal, (6) reflex, (7) due to pressure and congestion, (8) cutaneous, (9) subjective, (10) Give also Heger's and Braxton Hicks' sign. 2. Define position and presentation, and give diagnostic points of vertex, left occipito anterior position, and breech presentation. 3. State in your own way how you would conduct a normal labor. Let this include your preparation, also the preparation of the patient. 4. Give the mechanism of labor in left occipito anterior position. Also give mechanism of labor in right occipito posterior. 5. Give cause and treatment of puerperal eclampsia. Also give danger signals of eclampsia. 6. Give cause and treatment of postpartum hemorrhage. 7. Give indications for the use of forceps and describe how you would apply in a case of left occipito anterior position. 8. Give treatment of puerperal infection. 9. Give causes of sudden death in the puerperum. 10. Give treatment of ophthalmia neonatorum.

GYNECOLOGY

1. Name the more frequent injuries to the mother in childbirth. State how they should be treated. 2. Give symptoms, diagnosis, prognosis and treatment of Neisser infection of the vagina. 3. What are the most frequent causes of pelvic cellulitis? 4. Describe operation for (a) cystocele, and (b) rectocele. 5. Describe the following positions: Sims', Trendelenburg's, Fowler's and Edebohls', and state one or more operative procedures that may be facilitated by their employment. 6. At what period in a woman's life is uterine cancer most frequent, and what symptoms would lead you to suspect same and call for investigation? 7. Describe operation for ventral suspension in retrodisplacement of the uterus, and state what class of patients you would use the method with. 8. Describe Emmett's operation in detail for perineal repair. 9. Give chief points of differentiation between ascites and ovarian cyst. 10. Give causes, classification and treatment of tubal pregnancy.

SURGERY

1. Define infection. How does infection occur? What is specific infection? Give an example. 2. What nerve may become involved, and what paralysis may follow in fracture of the upper third of the humerus? 3. Give the causes and symptoms of a subphrenic abscess. 4. What are the symptoms of floating kidney? Give indications and technic of operation for its correction. 5. Define enterocele, epiplocele. Describe operation for radical cure of umbilical hernia, name tissues that are brought together. 6. Through what channels is carcinoma and sarcoma disseminated? 7. Differentially diagnose chancre, chancroid and herpes progenitalis. 8. Give symptoms and treatment of fracture of the nasal bones. 9. Give symptoms and treatment of gunshot and stab wounds of the abdominal wall involving the intestines. Describe the suture you would use in closing wound of intestines. 10. What is empyema? Give etiology, pathology and symptoms. State usual results when not treated.

THEORY AND PRACTICE OF MEDICINE

1. Define scorbutus. (b) What lesions are always present in scorbutus? (c) Give etiology and treatment. 2. Name two varieties of icterus neonatorum. (b) Treatment of each variety. 3. Give etiology, symptoms and treatment of facial paralysis. 4. What is an aneurysm? (b) Give diagnosis of aneurysm of thoracic aorta. 5. How would you differentiate fever of pyemic origin from intermittent malarial fever? 6. How would you treat dermatitis combustionis? 7. How would you treat acute poliomyelitis? 8. How would you treat orchitis complicating parotitis? 9. Give etiology, symptoms and treatment of acute rhinitis. 10. Give causes and symptoms of ileo-colitis.

HYGIENE

1. Explain the meaning of predisposing and exciting causes of disease. 2. Name the most common (a) animal and (b) vegetable parasites which produce disease. 3. Define temperament, idiosyncrasy and diathesis. 4. What is meant by ventilation? Give the amount in centimeters of air taken into lungs in an adult with each regular respiration. 5. What is the best method and disposition for removal (a) of sewage, (b) of garbage? 6. Name the four essential alimentary principles in food. 7. What diseases are conveyed by milk? 8. Give the method of pasteurizing milk. 9. What hygienic precautions should be observed by a pregnant woman? 10. In a clinical analysis of water, if nitrites and nitrates are shown, should it be condemned for drinking purposes; if so, why?

Book Notices

MATERIA MEDICA: PHARMACOLOGY: THERAPEUTICS: PRESCRIPTION WRITING FOR STUDENTS AND PRACTITIONERS. By Walter A. Bastedo, Ph.G., M.D., Associate in Pharmacology at Columbia University. Cloth. Price, $3.50 net. Pp. 602, with illustrations, Philadelphia: W. B. Saunders Company, 1913.

The advance of pharmacology is so rapid that the so-called latest text-books frequently do not contain our latest knowledge in regard to the action of certain drugs. This fact gives an advantage to a new book on the subject seldom possessed by the older books, which, even when revised, are apt to retain statements of discarded views. The work by Bastedo has been well done and presents in moderate compass an up-to-date view of the subject of pharmacology so far as it influences modern therapeutics. The subject of digitalis is worked out with especial fulness. The book favors the rational use of a few remedies with a thorough knowledge of their action, which must characterize the simpler and more practical therapeutics of the future. The book closes with an excellent chapter on prescription writing in which enough of Latin grammar is given to insure correct form without burdening the student's memory with unnecessary technicalities. There are some good hints as to the calculation of dosage, etc.

While the work is thoroughly practical it recognizes the value of research, and some remedies are mentioned only to be condemned because their use is not justified by modern investigation. The hypophosphites are characterized as useless and the modern substitute, the glycerophosphates, present no satisfactory evidence that they increase the phosphorus in the nervous tissues. Lecithin is regarded as having scarcely any advantage over eggs and milk. The discussion of the

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more important articles, such as iron, iodids, alcohol, etc., is eminently satisfactory.

We believe that the practitioner as well as the student will find this volume a very practical and reliable guide in the field of pharmacology.

TREATMENT OF INTERNAL DISEASES FOR PHYSICIANS AND STUDENTS. By Prof. Norbert Ortner. Edited with Additions by Nathaniel Bowditch Potter, M.D., Assistant Professor of Clinical Medicine at Columbia University. Translated by Frederic H. Bartlett, M.D., Instructor of Children's Diseases at Columbia University. Second Edition. Cloth. Price $5. Pp. 643. Philadelphia: J. B. Lippincott, 1913.

A second English edition of the fifth German edition of Ortner's book seems necessary at this time, owing to the large number of changes in the last edition in German. The chapter on children's diseases has been rewritten entirely by Professor Fronz of Vienna. As an aid in the treatment of diseases, the book is a valuable one, and the names of the editor and translator of the English edition are sufficient guarantee of the care with which the work has been prepared. In reviewing the first edition in 1908, we said: "The number of synthetics recommended is larger than is desired and it is to be feared that some preparations have found a place in the book that may outlive their period of service in actual practice." Of great significance, therefore, is the following statement from the preface of the new edition: "The editor has endeavored to comply with the suggestions of the Council on Pharmacy and Chemistry of the American Medical Association and so has omitted those drugs recommended by the author which have not been sanctioned by this body." Such a spirit is commendable and encouraging.

MODERN MEDICINE. Its Theory and Practice in Original Contributions by American and Foreign Authors. Edited by Sir William Osler, Bart., M.D., F.R.S., Regius Professor of Medicine in Oxford University, and Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia. Volume I: Bacterial Diseases, Diseases of Doubtful or Unknown Etiology, Non-Bacterial Fungus Infections, The Mycoses. Second Edition. Cloth. Price, $5 net. Pp. 1093, with illustrations. Philadelphia: Lea and Febiger, 1913.

The popularity of the first edition of this important work is evidenced by the necessity of a new edition at the end of six years. Still, the progress in medicine is so rapid that a text-book needs revision at the end of such a period. In the present case, the revision has been thorough and the present volume presents matured conclusions based on the most recent researches. Certain topics were deemed of somewhat minor importance and liable to so little change that they have been omitted from the present edition, the reader being referred to the previous edition for their consideration. The articles are written by specialists who have carefully revised the text, condensing in some parts, but giving special attention to diagnosis and treatment. New sections have been written on a number of subjects. It is promised that the succeeding volumes of the new edition will follow promptly. It is hoped that the work thus revised will continue to fill its place as a standard in medical literature for the English-speaking peoples.

Medicolegal

Treatment of Compound Fractures of the Jaw—How Question of Charges Should be Considered

(Cozine vs. Moore (Ia.), 141 N. W. R. 424)

The Supreme Court of Iowa reverses a judgment for $800 rendered for the plaintiff for alleged malpractice, saying that, on the record as made, it thinks the defendant was entitled to the directed verdict for which he moved on the ground that the evidence failed to show any negligence or breach of professional duty on his part. The plaintiff had been thrown under the wheels of his loaded wagon. His observable injuries were a wound on the back of the head, a "mashed" cheek bone, and two compound fractures of his left lower jaw. The defendant, a physician four or five miles distant, was sent for. When he came, he found the plaintiff lying on the ground at the place of the accident. He extended immediate temporary relief and removed the patient to his home. In the treatment of the plaintiff the most difficult problem was presented by the compound fractures of the jaw. The flesh wounds of the compound fractures were in the mouth, and more or less dirt had been forced into the mouth and into contact with the wounds by the circumstances of the accident. The segment of the jaw between the two fractures had been drawn out of position by the contraction of the muscles and had been drawn upward. One of the problems confronting the defendant was to restore such segment to its place and to secure it in its proper position. In order to do that, sufficient force had to be applied in some way to overcome the tendency of the contracting muscles. An instrumentality was constructed called an interdental splint. The defendant called to his assistance an experienced dentist. A wax impression was first made of the plaintiff's jaw and teeth. That impression was used as a model for the construction of the interdental splint, which was made from rubber or gutta-percha on the form of the wax impression. It was so placed over the teeth of the patient as to hold the broken segment in place with a view thereby to bring the fractured ends in apposition and to accomplish a union thereof. Provision was made for the cleansing of the patient's mouth several times daily. The splint was kept in the mouth of the patient for a period of five weeks. It was very uncomfortable. It interfered with the closing of the plaintiff's mouth and with expectoration and with swallowing. There was more or less infection present. The plaintiff's breath became offensive. In the course of five weeks he became sick with pleurisy. Another operation was performed by another surgeon for the removal of pus from the pleural cavity. The splint was removed at the expiration of five weeks. A union had not occurred, or at least was not complete. The patient's general condition was very grave and the chances of recovery were against him. No further surgical attention was given to the jaw. In time the union resulted, and at the time of the trial the place of fracture was not readily discoverable by the expert witnesses. The alignment, however, was more or less imperfect.

It was the contention of the plaintiff that the use of the interdental splint was unwarranted and clearly negligent on the part of the defendant, and that another surgical method, known to the profession, should have been adopted by the defendant, which consisted in drilling several holes in the jaw and in each end of the broken segment and drawing and holding the parts together with the use of a silver wire. This method also had its perils. In case of infection there was danger of necrosis of the bone. It increased somewhat the danger of infection because it was impossible to wholly eliminate infecting bacteria from the mouth.

Whether the defendant departed from the standards of his profession in his treatment of the plaintiff was a question which from its very nature must be determined in the main on the expert testimony of other physicians. The court thinks that the testimony as a whole clearly fell short of a showing of negligence or want of skill in the defendant in the use of the interdental splint. The most that could be said was that the witnesses, if in charge of the case, might have adopted a different course. That would be a difference of judgment only. Indeed, it could hardly be said from the testimony that the plaintiff's medical witness would have adopted a different course. All experts agree that every difficult case presents a zone wherein the best method becomes largely a question of judgment of the attending surgeon under all the apparent circumstances of such particular case. That the appliance was painful or inconvenient, and that infection resulted, and that the plaintiff's life was in great peril, were all matters incident to the natural results of the original injury. The best of surgical treatment might not be able to avoid them. The emphasis of the plaintiff's case was laid on these circumstances. Of themselves they were clearly insufficient to prove negligence of the defendant.

Some testimony was introduced by the plaintiff relating to the defendant's charges for his services. The amount all told was over $1,500, and the defendant obtained from the plaintiff a promissory note for the greater part thereof. It was also

shown that the defendant sold the note. Complaint was made of this testimony as being irrelevant and immaterial and calculated to prejudice the jury. The court fails to discover in the record any legal reason for the introduction of this testimony. In the absence of a showing of items entering into the sum total, it would impress the jury, as it impressed the court, as an extraordinarily large bill and could not fail to create a hostile feeling against the defendant. The amount of the verdict rendered was rather suggestive that the real intent of the jury was to reduce the defendant's bill to a reasonable extent, rather than to compensate the plaintiff for damages suffered as a result of negligence. If the defendant charged the plaintiff an exorbitant bill and improperly obtained his note therefor, a direct issue of that kind should be made and a recovery sought on such ground. An opportunity would thus be afforded to the defendant to justify his charges if he could. If there was an obstacle in the way of such suit by reason of a valid settlement, the same obstacle should bar the interjection of such question into this case. If the obstacle was surmountable, let the issue be directly made.

Rules as to Liability for Services Rendered on Request of Parents and Other Third Persons

(McGuire vs. Hughes (N. Y.), 101 N. E. R. 460)

The Court of Appeals of New York affirms a judgment of the Appellate Division affirming a judgment of the Apellate Term of the Supreme Court affirming a judgment entered in favor of the defendant, dismissing the complaint in this action, brought to recover the reasonable value of services rendered by the plaintiff as a physician, at the request of the defendant, to the latter's daughter, a married woman living with her husband. The court says that the only question on this appeal was whether the defendant came under any obligation to the plaintiff. That turned on whether the law would imply a promise on her part to compensate him. If the court might assume the existence of a moral obligation, that would not determine that a legal, or enforceable, obligation existed.

The rule in the United States has generally been that a physician is entitled to recover for his services, if not under an express contract therefor, then under an implied agreement to pay as much as they are reasonably worth, differing, in earlier times, from the rule at common law, which, in England before the passage of the medical act of 1858, in the absence of a special agreement, denied to the physician the right to sue for his professional services, the theory of any payment to him being that of an honorarium.

It should be taken as the rule of law, too well settled on authority to be now questioned, that a physician, in the absence of a special contract, may recover on an implied agreement to pay for his services their reasonable value, when they have been rendered at the request of the patient, or of a person who, in the eye of the law, is regarded as being under a legal obligation to provide such professional services for the patient; such as a husband, or the parent of a minor child.

But the general rule that, when a person requests of another the performance of services, which are performed, the law implies a promise by the former to pay their reasonable value, has no application in the case of a physician, rendering professional services to a third person, if the relation to the patient of the person, who requests them, be not such as imports the legal obligation to provide them.

In the present case, notwithstanding the anxiety, the importunity, and the prayers of the defendant, how was the legal obligation of the patient's husband shifted to, or assumed by, the defendant? According to the plaintiff's testimony, he refused to attend the patient until the husband had consented; which may be said to be a recognition, at least, of the marital relation, with its consequent responsibility, or liability. It certainly followed that, when the husband's consent was given an obligation arose on his part to pay the reasonable value of the services which the plaintiff might render. As there was no express promise by the defendant to pay, the court cannot hold, on the facts disclosed by the plaintiff's evidence, that there was also an implied promise on her part.

It would be a simple matter, in cases in which the physician is called on to attend a person, at the instance of some one not standing in a responsible relation to the patient, to inform himself as to whom he shall look for his compensation.

Insufficient Complaint and Evidence in Malpractice Case — Treating for Blood-Poisoning Case Later Diagnosed as Osteomyelitis

(Osborn vs. Carey (Idaho), 132 Pac. R. 967)

The Supreme Court of Idaho reverses a judgment giving the plaintiff $4,000 damages for alleged malpractice, and grants the defendant a new trial. The court says that the plaintiff was a boy about 12 years old. It was alleged in the complaint that on or about Nov. 14, 1911, he was afflicted with a disease of his right leg, for which the defendant was called to treat him, and that the defendant carelessly failed to make a proper examination of him, such as a physician of ordinary skill would have done, and pronounced the disease to be blood-poisoning, when in fact it was a disease of the leg "at the right tibia," which disease and ailment has well-known and peculiar signs and symptoms which an ordinary physician would detect, and that the defendant continued negligently and unskilfully to treat him for blood-poisoning until about March 10, 1912. This allegation was too uncertain in that it did not appear from the complaint what was the name or nature of the alleged disease, or what were the signs or symptoms of the disease, which it was alleged were well known and peculiar.

In this class of cases, in order to enable counsel properly to prepare a case for trial, it is usually necessary for them to make considerable study of the ailment or disease with which it is claimed a plaintiff was suffering, in order that they may properly defend their client. The danger to the defendant in such a case on a general allegation of a disease claimed to be a "well-known disease," without naming it or giving its signs and symptoms, is certainly increased in a malpractice action over the ordinary action, and it would seem only fair to the defendant that the plaintiff should be required to name the disease with which he was afflicted. The defendant could not know prior to the trial for a certainty with just what disease the plaintiff would claim he was afflicted. Had he known, he might have made a better defense.

The complaint was also uncertain in that it could not be determined from its allegations whether the plaintiff claimed negligence in the treatment of a disease correctly diagnosed, or whether he relied on the fact that it was the wrong treatment for osteomyelitis. The defendant ought to have been advised by the allegations of the complaint in regard to that matter. If the court should assume that the exact charge of negligence as to the treatment related only to the mistake of the disease, and that the defendant had wrongfully diagnosed it as "blood-poisoning," and treated the ailment on the wrong theory as to the nature of the disease, the defendant would not necessarily be liable, even though as to the nature of the disease, the defendant would not necessarily be liable, even though the treatment did not produce good results, for it must appear from the allegations of the complaint that the treatment was not proper from the standpoint of the consensus of opinion among physicians and surgeons of ordinary skill and learning in the profession in the locality wherein the defendant practiced. In other words, even though the ailment were osteomyelitis, even though the defendant treated it as blood-poisoning, still the nature of the disease might be such that in the opinion of physicians they should be treated alike, and, if such were so, the defendant would not be liable for using such treatment, even though it did not produce good results.

In this class of cases the allegations of the complaint ought to be sufficiently specific to inform the defendant of the facts that he must meet by his defense, and the complaint ought to allege specifically the things concerning which the negligence is charged and the name of the disease with which the plaintiff was afflicted, and that was so here, since it was

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alleged that it was a "well-known" disease. It was alleged in effect in the complaint that the defendant, on account of carelessness and negligence, failed to discover the true disease with which the plaintiff was afflicted, and it certainly was only fair to the defendant, if the disease was well known and had a name, that the name of the disease be alleged.

Again, it was incumbent on the plaintiff to produce competent evidence on the trial to warrant the jury in finding that he really had osteomyelitis at the time he was treated by the defendant. There was evidence in the record to show that he had osteomyelitis thirty days after the defendant's last visit, but it was contended there was no evidence in the record to show that during the time the defendant treated the plaintiff he was afflicted with such disease. The existence of the disease on March 12 would not prove of itself its existence thirty days prior thereto, and the expert witnesses based their testimony of the existence of the disease at the time the plaintiff was being treated by the defendant on a "history of the case," which was not put in evidence. It was contended by counsel for the plaintiff that this objection was one which went to the competency of the evidence, and that question should have been raised in the court below by appropriate objection to the evidence, when the missing facts and circumstances, if they were material, could have been supplied. The objection, however, went to the weight of the evidence and as to its value as proof, and not to its incompetency. If a case depends on the opinion of the expert, and the truth of the opinion depends on the existence of certain facts and such facts are not shown, the opinion can have no value or weight as proof.

In order to recover in this case the plaintiff must establish the existence of osteomyelitis during the time he was under the care and treatment of the defendant, the amount of damages sustained, as well as other facts. There was not sufficient evidence to show that the defendant carelessly and negligently treated said disease or that the disease with which the plaintiff was afflicted at the time he was treated by the defendant was not blood-poisoning or septicemia.

Society Proceedings

NEW YORK NEUROLOGICAL SOCIETY, AND SECTION ON NEUROLOGY AND PSYCHIATRY OF THE NEW YORK ACADEMY OF MEDICINE

Joint Meeting, held Nov. 11, 1913

DR. SMITH ELY JELLIFFE and DR. I. STRAUSS Presided

The Irregular Bony Formations of the Sella Turcica in Some Epileptics

DR. L. PIERCE CLARK and DR. E. W. CALDWELL: Cranial asymmetries and osseous deformities in epileptics have long been the subject of intensive study by many able investigators. Some young epileptics present a markedly thickened skull, but usually the thickness is increased after the twenty-fifth year and becomes very marked after the fortieth year. The calvarium of the epileptic is heavier than that of the normal person of the same age. Dr. G. C. Johnston of Pittsburgh, Pa., was the first to study these cases roentgenographically. Three types of the pathologically deformed and enlarged sella have been distinguished and classified by Cushing. One is associated with thickening of the clinoid processes and dorsum ephippii. Here the enlargement is accompanied by thickening of the walls, but Cushing stated that this type was confined to the acromegalics and gigantics; he believed that the bony thickenings were merely a feature of the osseous tendency to overgrowth, which, of course, threw no light on the condition shown in some epileptics.

The circulatory disorders in epilepsy shown frequently in slow pulse, vasomotor stasis in the extremities, and an invariably low blood-pressure when arteriosclerosis was not advanced, the tendency to obesity and a ravenous appetite might make one pause before excluding the possibility that there may be some association between epilepsy and a marked disturbance of the pituitary body, and that it might ultimately be found that pituitary disease may sometimes have more or less bearing on some types of epilepsy in some of its broader and more general manifestations.

Little or no reference has been made to this condition of irregular bony formations of the sella turcica by those who have made a special study of the cranium, and its significance could only be conjectured. Dr. Johnston of Pittsburgh was the first to suggest that it might have some bearing on epilepsy.

Newer Researches Concerning the Hypophysis

DR. FREDERICK TILNEY: The ontogenesis of the hypophysis demonstrates the necessity of revising the nomenclature applied to it, inasmuch as certain neural and glandular elements have not hitherto been recognized. The study of the development in a number of vertebrate forms is the basis for the following classification of the several parts of the organ:

1. The pars neuralis, consisting of (*a*) the eminentia saccularis of the tuber cinereum; (*b*) the infundibulum; (*c*) the infundibular process. 2. The pars glandularis (epithelial), consisting of (*a*) the pars tuberalis (hitherto undescribed); (*b*) the pars infundibularis; (*c*) the pars distalis.

Some Causes of Disappointment in Operations on Brain Tumor

DR. WILLIAM G. SPILLER, Philadelphia: Bruns said that about thirty out of 100 brain tumors were so situated that a radical operation might be advised; the localization was accurate, and the tumor in these cases was accessible. He believed that we might expect surgical success in from 3 to 4 per cent. of all brain tumors. Tooth studied the records of 500 cases of brain tumor at the National Hospital obtained during the years 1902 to 1911, inclusive. Of these, about half came to operation. He thought that a high mortality was inevitable, but that it could be reduced by a judicial choice of cases and by selection of the operation best suited for individual cases. The immediate dangers common to all growths, all situations and apparently all operations, were shock, collapse and respiratory and cardiac failure.

Many causes of disappointment occur to any one familiar with operations for brain tumor. The best known are incorrect diagnosis, the infiltrating character, large size and inaccessible situation of the tumor, errors in technic and impaired general vitality. Increase of intracranial pressure is the cause of many of the general symptoms occurring with brain tumor. It is attributed directly to the tumor and varies with the size of the growth. There is a condition resulting from tumor to which little attention has been paid, and which is as important, if not more so, than the size of the tumor itself, namely, enlargement of the brain. This hyperplasia is not directly proportional to the size of the tumor: it might be moderate with a large tumor or sufficient to cause much enlargement of one cerebral hemisphere when the tumor is small. The hyperplasia might be the result of irritation either from pressure or possibly from some substance elaborated by the tumor, and is caused by an overgrowth of neuroglia tissue. This hyperplasia of the brain might occur with any variety of tumor. It should not be confused with enlargement from glioma tissue, nor should it be confused with the acute brain swelling of Reichardt. The sudden fatal termination that occurs in some cases of tumor is probably the result of this enlargement of the brain, and of interference, by the general increase of intracranial pressure, with the important functions of the medulla oblongata. It might also be that hyperplasia of the brain is an important cause of impairment of mentality in some cases of brain tumor.

DISCUSSION

DR. M. ALLEN STARR: I have seen a number of cases of brain tumor associated with a distinct hypertrophy of the corresponding hemisphere, but have never ascribed to this condition the explanation offered by Dr. Spiller. The form of hypertrophy that follows operation in some cases and fails

to occur in others has often puzzled me. I could not understand why in some cases after an operation for brain tumor there should develop an enormous hernia cerebri, while in other cases it was entirely absent, and I did not believe that it was always an evidence of sepsis. The distortion of certain parts of the brain resulting from tumor is a well-recognized fact, and by causing pressure on or stretching the cranial nerves it might give rise to secondary symptoms and obscure the diagnosis.

A review of my last fifty cases of brain tumor showed that the diagnosis as to the location of the growth was possible in thirty; in the remaining twenty, its location could not be determined definitely. In twenty of the fifty cases an operation was urged, and in eighteen of these it was performed. In eleven of the eighteen the operation confirmed the diagnosis, and the tumor was removed; in two the tumor was found, but could not be removed on account of difficulties encountered in connection with the operation; in five nothing was found. The death-rate was 6 per cent.

DR. B. SACHS: Doubtless many have observed this hyperplastic enlargement of the hemisphere accompanying brain tumor, but gave no heed to it. At the recent International Medical Congress in London, Sir Victor Horsley made the statement that unless the diagnosis was made before the appearance of optic neuritis, which was generally regarded as such an important feature of the condition, it was almost too late to do the patient any good. This is rather an extreme view. In the recognition of this condition it is not an easy matter to forego the advantages that go with the presence of a pronounced optic neuritis. I can recall a number of instances in which the diagnosis, without the eye symptoms, would have been practically impossible. In a case that was recently under my observation there was no optic neuritis, but there was evidence of tumor involvement of the fifth nerve. In addition to this, there were marked cerebral symptoms and an operation was contemplated, but after three weeks' observation in the hospital and under simple hygienic treatment all the symptoms gradually disappeared, with the exception of the fifth nerve involvement, and the patient has been temporarily discharged. I still believe that we had to deal with a brain neoplasm, but the patient was so much better that the idea of an operation has been abandoned for the present, at least.

The high mortality accompanying operation for brain neoplasms might perhaps be lessened to some degree by a more careful manipulation of the brain. This and the rapid checking of hemorrhage are important factors in the reduction of the death-rate after these operations.

DR. ROBERT ABBE: I have practically come to the conclusion that decompression is the operation of choice, on account both of its comparative simplicity and the benefits that accrue from it. I recall several instances in which this procedure was followed by great prolongation of life, together with improvement in the eye symptoms. In one case in which no tumor was found, although that diagnosis had been made and was well founded, the patient survived a decompression operation for four or five years and has resumed work. In another case in which the sight had been entirely lost the decompression resulted in restoration to health, and the patient was alive three years after the operation, when she was lost sight of.

DR. J. RAMSAY HUNT: I am familiar with the enlargement of the convolutions and parts of the hemisphere in the neighborhood of brain tumors, and I have always regarded it as the result of stasis due to an interference with the circulation, near the growth, of the blood- and lymph-streams. A similar condition was observed in abscess formation of acute onset, and under those circumstances the term "hyperplasia" was certainly scarcely applicable. I should be inclined to attribute this swelling and enlargement to a chronic stasis and edema, and not to a true hypertrophy or hyperplasia of brain tissue. It is not surprising that in old cases, as a result of pressure and stasis, there should be some changes in the appearance and relation of the histologic elements; but in my experience there has been nothing in the microscopic picture of the swollen region that would have suggested the occurrence of hypertrophy and hyperplasia.

DR. CHARLES A. ELSBERG: I have noticed this asymmetry between the size of the two lobes in cases of brain neoplasm, and have ascribed it to an increase of the fluid content on the affected side. I do not understand whether or not Dr. Spiller attributes the occurrence of hernia cerebri to this hyperplasia. In many cases of hernia cerebri, the protrusion could be reduced by elevation of the patient's head or by lumbar puncture or by aspiration of the ventricles or the corpus callosum, or by a combination of these methods. The degree of pressure varied. At times a large, tense hernia occurred without apparent explanation, while at other times the protrusion was almost collapsed, and if it was attributable to this condition of hyperplasia, it would be difficult to understand these marked differences in the pressure.

Within the past few years I have seen two cases of tumor in the left frontal region, both located in the cortex and of the endothelial type, in which the wrong side of the brain was exposed. In both of these cases there was no increase in pressure; on the contrary, there was a diminution to such a degree that it led to a subsequent opening of the skull on the opposite side, where the tumor was really located.

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

Fourth Annual Meeting, held in Washington, D. C., Nov. 14-17, 1913

The President, DR. L. EMMETT HOLT, New York, in the Chair.

Infant Mortality—Past and Present

DR. L. EMMETT HOLT, New York: Infant mortality is one of the great social and economic problems of our day. No resources of the state need so much to be conserved as its children. On the physical, intellectual and moral strength of the children of to-day the future of the country depends. In all training and education physical considerations must come first. Unless the infants are saved there will be no children to educate. The early attitude of the state and of the family toward the child was purely utilitarian; it aimed to provide for the survival of the child whose life might be advantageous to the state, and to eliminate all others. Thus the exposure to death of the feeble and the deformed was done without any hesitation or compunction. There are those to-day who believe that the high infant mortality tends to improve the race by eliminating the unfit in a process of natural selection. This assumes that those who are feeble and delicate in infancy are to be classed among the unfit. In the majority of cases this is not true. In a high infant mortality it is the unfortunate and not the unfit that are eliminated. General interest in saving the lives of infants is only fifty years old, and it has been active and efficient for barely twenty years.

Most of the modern agencies employed for the reduction of infant mortality have arisen in France. The first was the crèche or day nursery established in 1844. This was followed by societies for the protection of infancy and the promotion of maternal nursing, and finally the introduction in 1892 of the infant consultation and the milk-depot. These are places at which the mother of the young infant reports regularly to have her child weighed and examined and where she is given advice regarding its care. The infant consultation and milk-depot, having been adopted all over the world, are probably the most important agents yet devised for reaching the ignorant mother and aiding her in saving her child. In Germany at present attendance at these consultations is encouraged by a payment of a bonus of from 1 to 4 marks weekly to increase the family income sufficiently to enable the mother to nurse her child. In France also similar payments are made.

Since 1900 a world-wide campaign for the reduction of infant mortality has been in operation. Its results are shown nowhere better than in New York City, where the problem presents peculiar difficulties owing to the heterogeneous character of the population, the dense overcrowding, equaled nowhere else in the world, and the hot summer climate. What

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has been accomplished may be seen by the following figures: In 1890, in New York City, the death-rate was 28.8 per cent. of living infants; in 1908 it was 13.8 per cent.; in 1912 only a little over 10 per cent.

Simple Milk-Dilution Feeding

DR. HERMAN SCHWARZ, New York: I wish to make a plea for the use of ordinary milk, water and sugar feeding. I believe in top milks in some cases, but I should like to emphasize the fact that it is only fair to the mother and in many cases to the child to try first the ordinary milk dilutions with the addition of sugar calorically sufficient. In institutional and clinical cases it is important not to make the feeding of infants a terrifically difficult problem with the use of a great deal of mathematics and apparatus. The addition of lime-water and of barley, unless indicated, and the use of other sugars beside the ordinary granulated or milk-sugar are also to be deprecated. The indiscriminate use of the malted sugars and infant foods is in many instances unnecessary, adding to the trouble of making the food, to the expense and to the time consumed in preparing it. In other words, unless there is some indication one should try the ordinary dilutions of milk, water and sugar in the greater percentage of our institutional patients. I can report the results of the use of such simple dilutions for 3,600 children, followed up for the period of a year. Many of these children are breast-fed until the eighth, ninth or tenth month; some have had to have milk mixtures added to or replaced entirely, at a much earlier period. When the addition of cow's milk is indicated the ordinary dilution of milk, boiled water and granulated sugar was almost always used. Of 1,182 infants thus fed and observed for a year, the average weight at the end of the year was 19 pounds and 14 ounces. The greater number of infants (approximately 75 per cent.) were over 18 pounds, and this in a material whose care could not be controlled absolutely and whose resistance to diseases was so lowered that a great many illnesses kept the weight back. Most of these babies received additional nourishment in the milk mixtures before the ninth month.

DISCUSSION

DR. GODFREY R. PISEK, New York: This paper indicates the tendency toward simplicity, but Dr. Schwarz has not emphasized one feature which makes the simplified dilution of water, milk and sugar successful to-day. If ten or fifteen years ago we had tried simple milk-and-water dilution we would not have had the good results we have to-day because we have good milk now in the majority of cases. We had good results with our top-milk mixtures because doctors insisted on good milk in order to secure the top milk. To-day we obtain good results with whole milk because it is bottled milk. In the milk stations of New York City one year we tried pasteurized milk at some stations and raw milk at others. At the end of the year there was not much difference. The milk was handled under the direction of the nurses in the homes. The next year a good raw milk was again used, and these simple modifications were efficacious and we had good results. Simple dilutions will answer the purpose of the normal child; but in special cases we must adapt the modifications to the child.

DR. L. EMMETT HOLT, New York: The difficulty is to keep people reporting regularly, and attending to the dilutions of milk according to the growth and needs of the child.

DR. JULIUS LEVY, Newark, N. J.: This paper is of immense social value because the average mother can be taught this system of feeding at home. This saves an immense amount of work on the part of the doctors, the nurses and the philanthropists; but best of all, it puts into the home the educational value of teaching the mother how to handle the milk. An association does an immense amount of work if it spreads the propaganda of simple milk modification among the doctors as well as among the mothers. The idea of feeding a child scientifically has been associated with a very elaborate knowledge of calories and percentages. If we can let every one know that simple milk modification will meet the average case, we shall have accomplished a great end.

DR. H. F. HELMHOLZ, Chicago: A great deal can be accomplished by the use of simple methods, if they are used rightly. Dr. Holt advocated simple methods from the very beginning; but simple methods may not help out if we have an infant that has had all sorts of mixtures fed to it before it came into our care. In our work in cities where thousands of babies have to be fed, we must have some simple procedure that can be taught the mother, and the simpler the procedure, the greater the chance of success.

Teaching of Hygiene and Its Relation to the Prevention of Infant Mortality

DR. I. A. ABT, Chicago: How can the medical profession yield more efficient service in the prevention of infant mortality? Are our undergraduate and postgraduate medical schools contributing their share in instructing students in infant hygiene? Are infant hospitals, medical societies and other institutions of instruction and learning contributing their share in the propaganda of prevention? It has seemed to me at times that our energy in this campaign of prevention has been somewhat misdirected. I cannot fail to recognize the far-reaching effects on the reduction of infant mortality from the infant-welfare stations and the efficient service rendered by physicians and nurses in educating mothers and saving infant life. Nor would I discredit the campaign of education which has extended into many homes and brought light and relief into many dark places. In some medical schools, students learn what little they know about the hygiene of infants from the teacher of obstetrics; in a few schools the subject is taught by the department of pediatrics. In most schools the subject is taught indifferently, if at all. Infant hygiene should be taught in the department of pediatrics, should be given by one who is not a mere tyro in the department of children's diseases. The instruction should be based on physiologic knowledge, also utilizing such facts in clinical pediatrics, bacteriology and pathology as pertain to the hygiene of infancy.

The course in infant hygiene should consider the care of the infant during the first days of life, and the necessity for external warmth. The prevention of infection in the new-born is a theme worthy of careful study. The technic of the bath, its temperature, the warmth of the room and all other facts concerning its application are as important from the physician's point of view as from that of midwife, nurse or mother. The treatment of the cord, the umbilical wound, the clothing, should be considered in detail because they are matters of vital importance, simple when understood, serious or frequently fatal when misunderstood. The hygiene of food and feeding, the physiology of foods, the advantages of breast-feeding are all considered in the larger text-books on pediatrics and are easily accessible to every student. Air and exercise, the bathing of older children, the training of children, prevention of infections, and countless subjects and questions will come up for consideration, and should be treated in the greatest detail, because, after all, if medical schools are educating men for general practice, these various problems in infant hygiene which require daily application among normal and sick children are of the most far-reaching importance. Adequate training of young physicians in infant hygiene would be one of the most powerful forces in combating infant disease and mortality. The children's hospital should be a Mecca to which practitioners should pilgrimage. Popular lectures should be delivered at these hospitals as well as at undergraduate and postgraduate schools. Addresses should be delivered by competent physicians before district and county medical societies, so that the general practitioner of medicine might come into possession of the latest and most accepted methods of pediatric practice and particularly those facts which pertain to the hygiene and prevention of disease among infants.

DISCUSSION

DR. J. H. MASON KNOX, JR., Baltimore: Most of us who are engaged in milk-station work and in seeing many children of the working classes, realize that a large part of our work is made necessarily simple because of the absence of the things which Dr. Abt has advocated. Some of us look on this crusade

as pointing to the time when this knowledge of the hygiene of infancy will be more general. This knowledge of the elements of infant hygiene should be a part of all teaching of older girls in high schools and colleges. It is a legitimate part of every course of normal education; and until it is made so, we must continue in the present unsatisfactory way, through propaganda by societies like this one, and by means of the very discouraging attempts on the part of doctors and nurses to tell mothers who are beyond the age when learning comes easily, what mistakes they have already made in the care and feeding of their children.

DR. HELEN C. PUTNAM, Providence, R. I.: The graduates from high schools and colleges are only a small fraction of all the girls in the country. This society stands consistently and strongly for educating in continuation schools the great mass of girls who have no education at all during adolescence. One of the greatest things we can do in this society toward the prevention of infant mortality is to have these continuation schools—voluntary or compulsory—establish in every city in the country classes for teaching girls who are past the elementary school education how to take care of their children.

DR. S. JOSEPHINE BAKER, New York: This work is being done largely throughout the country by health boards, or through private organizations where the public authorities have not taken it up systematically. In New York we have our "Little Mothers' League," of girls from 12 to 14 who are taught these elements of baby care by lectures. Last year we had 17,000 girls in our league, and the attendance is entirely voluntary. The boards of education should take this up as a part of the public-school course, and I believe as people interested in the welfare of infants we should make it our business to conduct a campaign of education among the educators themselves. We can do nothing more important for the women of the future than to teach them how to keep alive and well the children they will bring into the world.

MISS HARRIET L. LEETE, Cleveland: Our girls are being taught by the school nurses in Cleveland. This work has been taken up by the Babies' Dispensary after school hours. Children like it very much. This year it will come under the direction of the Board of Education.

(To be continued)

ENGLEWOOD BRANCH OF THE CHICAGO MEDICAL SOCIETY

Regular Meeting, held Dec. 2, 1913

The President, DR. J. H. HESS, in the Chair

Headaches

DR. ROBERT B. PREBLE: Headache is an extremely common symptom, occurring in practically every pathologic condition, yet there is no uniformity of opinion or actual knowledge as to where the pain is experienced. The dura is certainly devoid of sensory nerves, so that it can be cut without exciting pain. As we approach the base of the skull, however, the dura becomes progressively more and more supplied with nerves, mostly derived from the fifth cranial nerve. The pia and arachnoid are almost devoid of nerves, except the sympathetic. The brain tissue itself seems to be quite insensitive to pain. Whereabouts in these structures one feels pain, we do not know; but the presumption is that the pain is experienced in the dura, and rarely arises in the sensory branches from the fifth cranial nerve.

Many attempts have been made to classify headaches, but none has been satisfactory. We can think of a variety of pathologic conditions in which a mechanical explanation seems necessary, for example, the headache due to increased intravenous pressure. The nerve-fibers are directly irritated by the pressure. There are certain chemical bodies which will precipitate headache very easily, such as nitroglycerin, and here again is an instance of increase in the intracranial pressure, dilatation of the vessels and irritation of the nerves. That idea is, in part, correct, as shown by clinical observation; but a much larger dose of nitroglycerin is required to produce a headache in a person whose vessels are thickened or sclerotic than in one whose vessels are responsive. It may be that the nitroglycerin irritates these nerves directly, but this classification is not satisfactory because it does not explain why the action is selective and does not give rise to pain anywhere else, and why this nerve is selected.

The classification I shall use is that of Auerbach, who divides headaches into a first group which he calls essential headaches, a second in which the headache is the result of diseases within the cranial cavity, and a third group in which the headache occurs in all sorts of conditions, remote from the skull.

The tendency is always to look on headaches in a superficial sort of way, and this is a serious mistake. Even though it is true that the great bulk do not amount to anything, nevertheless, every case of headache must be regarded as a problem of importance until it is certain that the headache is not the beginning of some serious illness. The history and the physical examination should be gone into with great care.

Among the cases of essential headache are those curious clinical pictures which we call migraine, thought by many to be the most common type of headache. In spite of the characteristic picture which many of these cases of migraine present, and in spite of the temptation which is so strong to dismiss them as mere migraine, one should not be too ready to do so, and particularly to dismiss as a case of migraine one which, no matter how typical the description, does not give a definite and clean-cut history of heredity. A person may develop a migraine without a family history, but the number of such instances is very small. Furthermore, one should not be too ready to accept a diagnosis of migraine which comes on late in life. Migraine almost invariably begins relatively early in life. So when a person comes with the complaint of migraine beginning at 40 or 50, one should be particularly careful in the examination. While such a conditon is possible, it is exceptional.

Another form of headache for which there is no satisfactory explanation is the headache of the neurotic person. When any normal person becomes tired out, overworked—particularly mentally—or is under a strain of any sort, headache is apt to develop, and a night's rest cures it. In neurasthenics headache becomes a common and troublesome phenomenon, and may be the only one of which the patient complains; but, in these cases, if the patient is intelligent, he will tell you that the headache is not comparable to what everybody understands by the term "headache." The sensation is different. It may be painful—even excruciatingly so—but these patients will usually say that the headache is different from that caused by an acute intoxication of any sort. It is often described as an uncomfortable sensation between the scalp and the skull. There are sometimes localized areas of pain, pain which comes on under certain circumstances, and so on. Those people are usually readily recognized by any experienced practitioner as neurasthenics, but the same rule holds here, as always with neurasthenics: no matter how obviously they may be neurasthenics, the neurasthenia should not be accepted as an explanation of any given phenomenon until every possible organic explanation has been excluded, it is so easy for us to do the neurasthenic an injustice.

Another form of headache included in this group of essential headaches is the type, which I myself have never seen, called by the Germans indurative headaches—rheumatic headaches, conditions associated with nodules along the attachment of the muscles to the skull, and sometimes running down the muscles into the neck. Some of the German authorities say that this is the most common type of headache which is not due to any remote cause.

Then come the headaches which we associate in our minds with intracranial processes, with diseases of the meninges and diseases of the brain itself, particularly neoplasms of the brain. It is by no means universal for headache to develop in cases of this sort. I remember a patient who was convalescent from a pneumonia, and was to be discharged from the hospital in the afternoon of the day when he suddenly became unconscious and died in the course of a few hours. Necropsy

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showed that he had a most extensive purulent meningitis of the vertex, and yet it had caused no symptoms to attract attention. He could not have suffered any particular headache, because he had gone about uncomplaining. So it is quite possible for one to have extensive exudate processes in the brain which do not give rise to any symptoms.

Brain tumor can reach a very considerable degree of size without giving rise to pain. Whenever headache comes on with relative acuteness it should excite suspicion of the possibility of brain tumor, particularly if it is accompanied by the peculiar vomiting which is seen so often with brain tumor, a vomiting unassociated with nausea. This is not always true, but nearly always the case.

Of the affections of the meninges which give rise to headache, the most common one is meningitis. Usually the diagnosis is not difficult—by lumbar puncture. Then, there are the various infections, any one of which may present itself as a headache, although, as a matter of fact, there are not many in which the headache is a particularly prominent phenomenon. In typhoid it is often the most striking feature, all the other phenomena being entirely submerged in the headache, which is so intense and prolonged that it is with difficulty that one can be convinced that it is not a graver process. This extremely severe headache may be localized anywhere—it may be frontal, occipital or generalized. If, in addition to the headache, one has some evidence of meningeal irritation, retraction of the head, a Kernig, possibly a little papillitis, the temptation is strong to make a diagnosis of meningitis, even though the typhoid is recognized. A combination of the two occurs sometimes, but not often. If a complicating meningitis is suspected, a lumbar puncture is easily made. The only other common infection prone to give rise to intense headache is influenza. In pneumonia the headache is rarely a complaint of moment, which is also true of the other common ordinary infections.

In syphilis the headache is by no means an uncommon phenomenon, and in cases in which the syphilis does not manifest itself clearly it may be a source of great confusion. The headache of syphilis is worse at night than in the daytime. A Wassermann should be made; this will soon clear up the diagnosis.

The question of the relation of malaria to headache in this part of the country does not often arise because of the infrequency with which we encounter malarial affections, but in regions where malaria is common that question frequently comes up. Our diagnostic resources are such as to enable us to clear up the diagnosis, although the periodicity which is often noted in malarial headache will carry with it the suspicion of malarial cause.

There is another form of headache, that which comes with nephritis, particularly in its slowly developing, insidious, diffuse or interstitial form. Headache will be the first phenomenon that attracts the attention of the patient. Always when a person in the latter portion of life complains of headache recurring, and that person in earlier years was free from such headaches, the possibility of nephritis should automatically occur. If thorough examination is made the nephritis will not be overlooked. In addition to the forms of headache referred to, there are also many cases in which the explanation can be worked out by careful study and elimination.

Relation of the Nose and Accessory Sinuses to Headaches

DR. G. HENRY MUNDT: Severe pain in the forehead, particularly if it be unilateral, should arouse suspicion of an acute affection of the frontal or ethmoid sinus. Pain in the upper jaw, especially if there be tenderness on pressure, should cause one to look for an acute antrum. Headaches of nasal origin are peculiar. The nose is ordinarily the last place to look for the cause of a headache. Lack of ventilation in the nose and sinuses is accountable for more headaches than lack of drainage. The latter causes pain in acute suppuration, but is of less importance in chronic conditions. The pain is not always in the region of the sinus involved. Chronic headaches for which everything has been tried without affording relief are usually nasal headaches.

Grünwald gives the following conditions as causing headache: (1) increase of mucosa, with irritation of the nerves; (2) direct contact of swollen mucosa; (3) negative pressure in the sinuses; (4) stasis following operation of the drainage passages; (5) ulceration of the mucosa with involvement of the nerves; (6) reabsorption of toxins from within the sinus; (7) any condition which causes acute congestion of the cranial circulation, and (8) disturbances of the blood and lymph circulation at the base of the skull. In my experience, direct contact with a swollen mucosa has been a very frequent cause of headache. I have found the middle and occasionally the inferior turbinal in contact with the septum. Negative pressure in the sinuses has been the cause of many headaches. The sinus is normally filled with air. In these cases it is sealed, usually because the patient goes into a hot, stuffy room, which causes the mucous membrane at the opening of the sinus to swell. Some of the air in the sinus is absorbed by the blood circulating there, and there is congestion in the mucous lining of the septum, causing a dull, heavy ache. This variety of headache has been appropriately called vacuum headache. I have found it more amenable to non-surgical treatment that any other.

Ulceration of the mucosa with involvement of the nerves is the principal cause of the headache which we find associated with atrophic rhinitis; but reabsorption of toxins from within the sinus is probably partially responsible. More or less headache is always associated with chronic sinus disease. Its severity may bear no relation to the severity of the nasal lesion, very severe pain often being found with minor nasal changes, and vice versa. Nasal headaches are not constant as to severity. They are usually intensified by stopping, jarring, prolonged mental work and loss of sleep. The location of pain associated with sinus disease is by no means constant, but the patient will usually have the pain in the same region. There is a typical headache associated with each sinus.

The differential diagnosis between nasal and ocular headaches can usually be made by external observation. In sinus disease the headache is usually unilateral, while ocular headaches are nearly always bilateral.

Discussion on Headache

DR. ARCHIBALD CHURCH: We are in doubt as to the mechanism and the physiology which eventuates in a headache. I am convinced that a large number of headaches—not all—are due to pressure on the dura, and that the pain is in the dura. In some patients I have had the opportunity of manipulating the dura with the patient conscious, and have applied electrodes over the dura and through the dura and have stimulated the cortex centers without producing the slightest discomfort at the point of irritation, but producing all the major phenomena that would be obtained by the simple application of the electrodes to the uncovered cortex. In one instance in which the dura had been opened for the exploration of the cortex, the patient being conscious, I found that I could cut the dura with a pair of scissors, with only the slightest discomfort to the patient. It could be transfixed or cut with a sharp knife without producing any pain, but if I seized it with hemostatic forceps, producing pressure, some discomfort was produced.

It would seem that the dura reacts something like the bowel; that pressure conditions produce discomfort and perhaps pain. Therefore in all probability in cases of brain tumor the actual pressure of the growth in the cranial cavity produces the headache seen in these cases, which is relieved by decompressive operations or spinal puncture. Many patients complain bitterly of pain after lumbar puncture, which is probably due to the fact that after the needle is withdrawn there is a leaking of the fluid through the opening left by the needle. So I would strongly advise the use of a very fine needle, preferably a very thin iridium platinum needle.

The peculiar condition of so-called indurative headache is worth some consideration. Ettinger recently insisted that 60 per cent. of the chronic headaches are due to indurative conditions in the aponeurosis of the muscles that actuate the

scalp, the occipitofrontalis particularly. I share Dr. Preble's experience in not being able to detect these cases, but I have found that in a proportion of these patients past middle life, the condition is associated with rheumatoid processes or gouty conditions.

Another type of headaches which seems to be becoming more frequent is those associated with high arterial tension, in which there is no evidence of kidney lesion, merely a low specific gravity of the urine, headache experienced on waking, continuing through the day and subsiding at sunset. This condition I have found to be amenable to those measures which reduce arterial tension.

The cases of nasal headaches with which I have come in contact, especially in association with sinus diseases, have usually been unilateral and have presented a headache with which the patient rises in the morning which tends to subside at 10 or 11 in the morning. As to the periodicity of headache, I, of course, bear in mind the tendency of syphilis to produce a nocturnal headache, but I have frequently seen syphilitic headaches which occurred in the morning. Malarial headaches commonly occur before midday, but this may be broken up by a few doses of quinin, and the headache will come after the noon hour. I have never seen a case of headache which was distinctly of a reflex character from eye conditions that was not provoked by the use of the eyes under certain conditions. At present we have a remarkable demonstration of this in the moving pictures. Some persons will have headache after fifteen minutes' watching. The jiggling pictures produce a headache with startling rapidity, as a rule; but the history in such cases will show that the headaches date back to the time when the child first used his eyes for the near point.

I am glad that the point of heredity has been mentioned with reference to migraine. There is no disease which is so hereditary as migraine. I once called attention to the epileptic features in migraine. For a long time I thought a patient of mine had petit mal attacks, but proper management led me to the final diagnosis of a migraine. I have a case now in which the attack commences with a tingling in the head; shortly after this the side of the face seems to be drawn, speech is thick, and there is distinct aphasia. The right leg also drags a little. This lasts for fifteen or twenty minutes, and in about half an hour severe headache comes on, followed by all the vasomotor phenomena of migraine. Migraine is a distinctly psychoneurotic disorder, and essentially hereditary, so that it is important to remember that in making this diagnosis you must have a history extending back into the lives of the antecedents.

There is no problem that requires more thorough and searching investigation than the origin of headaches, and there is no condition so unimportant that it can be overlooked in any case of headache.

DR. HARRY KAHN: In a frontal sinus disease there may be headache in the occipital region, or headache from ethmoidal disease may be manifested in any part of the head. There is no definite location, except probably in acute frontal sinus disease. One point worth noting in frontal sinus disease is that patients have a band-like pain in the morning, which is especially accentuated when working hard. When the nose is cleaned out, the headache disappears, and by the middle of the day is gone; but this band-like pain is very definite. I have seen patients with chronic nasal suppuration who never had any headache. A patient may have a chronic nasal discharge and pus in the nose without suffering from headache. People also may have ozena for years without headache.

There is a headache which is noticed in otologic work in which a year or six months after a patient has had the mastoid opened a headache appears, which is probably due to a shrinking or pressure on the dura. This headache seems to be intractable. Then, again, I have seen another form, a headache due to disease of the sphenoid sinus, in which there was simply a hypertrophic condition of the sphenoid sinus. There is also a headache due to inflammation of the sphenopalatine ganglion, presenting definite symptoms of pain in the head, which has been treated by injections of alcohol into the sphenopalatine ganglion through the nose.

DR. ROBERT SONNENSCHEIN: One of the most definite things about the localization of pain with reference to certain sinuses is the fact that no one sinus shows any characteristic reference of the pain, except that infection of the antrum usually causes pain in or about the cheek. In cases of vacuum headache, especially those affecting the frontal sinus, there is a very distinct point of tenderness at the inner angle of the eye. Pressure on the floor of the frontal sinus at that point causes excruciating pain. Attention has been called by Halle of Berlin to a peculiar headache complained of by many persons, especially neurasthenics, and noticed mostly on arising. This pain is located at the base of the skull, where the muscles are attached to the occipital bones, and characterized by the fact that massage with considerable pressure relieves it. It is of no significance so far as lesions of the sinuses are concerned, but a point to be remembered in those cases of intractable headache occurring especially on arising.

DR. C. H. LOVEWELL: The form of headache due to constipation comes under the head of a toxic process, but, after all, it is the one most commonly seen in our general practice. Just what we should do in these cases is a puzzle. The patients almost invariably have taken all sorts of headache remedies, and only when they fear that they are becoming addicted to the use of these drugs do they consult the physician. The druggist really is the man who can tell you about headaches, because he is the one who sees most of them.

DR. R. B. PREBLE: I just want to refer to one point mentioned by Dr. Church, namely, the reduction of arterial tension in these cases with high arterial tension. If the tension can be reduced by a regulation of the diet and the manner of living, it is all right; but it should not be brought down by the use of nitroglycerin.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Public Health, New York

November, III, No. 11, pp. 1123-1252

1 Some Fundamental Physical Factors in Problem of Control of Atmospheric Environment. E. B. Phelps, Boston.
2 Ventilation Investigation. D. D. Kimball, New York.
3 Experiment with Ozone in School Ventilation. F. Bass, New York.
4 Preliminary Studies in Air Washing and Its Results. G. C. Whipple and M. C. Whipple, Boston.

Annals of Otology, Rhinology and Laryngology, St. Louis

September, XXII, No. 3, pp. 581-912

5 Diseases of Labyrinth with Report of Nineteen Cases. F. R. Spencer, Boulder, Colo.
6 Some Conditions Associated with Loss of Cerebrospinal Fluid. R. B. Canfield, Ann Arbor, Mich.
7 Odd Cases of Nasal Deflection with Suggestion as to Treatment of Nasal Adhesions. O. H. Maclay, Chicago.
8 Operative Findings and Results in Mastoiditis. Acute and Chronic. J. M. Ingersoll, Cleveland.
9 Radiography as Aid in Diagnosis of Mastoid Disease. F. M. Law, New York.
10 Modus Operandi of Galvanic Nystagmus. L. M. Hubby, New York.
11 Exhibition of Roentgenograms Illustrating Pathology of Mastoiditis. H. S. Birkett, Montreal
12 Technic in After-Care of Radical Mastoid Operation. P. Hammond, Boston.
13 Faucial Tonsils as Focus for Systemic Infection. G. E. Shambaugh, Chicago.
14 Two Cases of Cerebrospinal Meningitis Presenting No Central Nervous Phenomena until Shortly before Death. T. P. Berens, New York.
15 Choice of Treatment in Chronic Suppurative Otitis Media G. L. Richards, Fall River.
16 Roentgenographic Findings illustrating Anatomic Development of Mastoid Bone. W. H. Stewart, New York.
17 Topography of Tympanic Cavity. J. A. Cavanaugh, Chicago.
18 Some Anatomic and Clinical Relations of Sphenoid Sinus to Cavernous Sinus and Third, Fourth, Fifth, Sixth and Vidian Nerves. G. Sluder, St. Louis.
19 Exhibition of Otitic Brain Abscess Cases and Mastoid Exenteration by Nature. S. M. Smith, Philadelphia.
20 Report of Three Unusual Cases of Stammering. G. H. Makuen, Philadelphia.

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21 Diagnosis and Treatment of Diphtheria. J. B. Green, Asheville, N. C.
22 Two Cases of Perforation of Petrous Portion of Temporal Bone Due to Capsulated Bacteria. H. B. Graham, San Francisco.
23 Surgical Management of Diseases of Frontal Sinus. R. C. Myles, New York.
24 Case of Ulceration of Larynx; Perichondritis of Arytenoid Cartilages, Abscess and Partial Exfoliation of Both Cartilages Resulting from Typhoid. J. H. Bryan, Washington, D. C.
25 Vasomotor Disturbances of Upper Air Tract. C. W. Richardson, Washington, D. C.

Archives of Internal Medicine, Chicago

December, XII, No. 6, pp. 613-802

26 "Typhoid-Carrier" State in Rabbits as Method of Determining Comparative Immunizing Value of Preparations of Typhoid Bacillus. F. P. Gay and E. J. Claypole, Berkeley, Cal.
27 Agglutinability of Blood and Agar Strains of Typhoid Bacillus. F. P. Gay and E. J. Claypole, Berkeley, Cal.
28 *Examination for Diagnostic Purposes of Enzyme Activity of Duodenal Contents. A. F. Chace and V. C. Myers, New York.
29 *Hemorrhagic Disease: Antithrombin and Prothrombin Factors. G. H. Whipple, Baltimore.
30 *Practical Studies on So-Called Syphilis "Antigens," with Special Reference to Cholesterinized Extracts. J. A. Kolmer, E. E. Lamburgh, A. J. Casselman and W. W. Williams, Philadelphia.
31 *Circulation in Man: Blood-Flow in Hands and Feet in Cases in which Obvious Anatomic Differences Exist. G. N. Stewart, Cleveland.
32 *Blood Transfusion and Regeneration in Pernicious Anemia. K. M. Vogel and U. F. McCurdy, New York.
33 *Pathogenesis of Contracted Kidney. L. Aschoff, Freiburg.
34 Uric Acid of Blood and Urine, with Special Reference to Influence of Atophan. J. S. McLester, Birmingham, Ala.
35 *Some Forms of Urinary Nitrogen Affected by Administration of Desiccated Thyroid to Dementia Praecox Patients. E. L. Ross, Kankakee, Ill.
36 *Morphology of Blood in Epidemic Parotitis. J. H. Barach, Pittsburgh.
37 *Clinical Study of Hypertensive Cardiovascular Disease. T. C. Janeway, New York.

28. **Enzyme Activity of Duodenal Contents.**—Active amylolytic, lipolytic and proteolytic enzymes were found by Chace and Myers to be present in duodenal juice, though the activity of these enzymes is apparently subject to considerable variation under normal conditions. The acidity of the gastric juice appears to be without influence on the activity of the enzymes present in the duodenal juice. In a case of carcinoma of the gall-ducts and pylorus with biliary obstruction, there was an entire absence of bile from the duodenal juice. In a case of chronic pancreatitis, the amylolytic and proteolytic activity was entirely negative, while the lipolytic activity was comparatively weak. The absence of pancreatic enzymes from the duodenal juice would appear to be positive evidence of either pancreatitis or non-potency of the pancreatic ducts, while the lack of bile would appear to afford similar evidence of the occlusion of the common bile duct. Further observations on these conditions are desirable.

29. **Hemorrhagic Disease.**—True hemorrhagic disease, Whipple says, is rarely associated with simple obstructive icterus, contrary to common belief. Delayed coagulation time in jaundice may be influenced favorably by calcium, but such cases do not suffer from bleeding unless there is some other abnormality—for example, an excess of antithrombin. In these rare cases of true hemorrhagic disease associated with profound icterus, Whipple presupposes some liver disease and an upset in the antithrombin-prothrombin balance. Calcium has no effect on this condition. Disease of the blood-forming organs may present symptoms of hemorrhagic disease because of an excess of antithrombin in the blood. Whipple believes that it is unlikely that the blood-forming tissues are directly concerned in the antithrombin production as this element is much in excess in the case of anemia with complete marrow aplasia. He regards it as being possible that the products of blood-cell disintegration may stimulate an overproduction of antithrombin, and probable that the majority of hemorrhagic cases and purpuras associated with leukemias and anemias belong in the antithrombin group. Melena neonatorum in many, perhaps all, instances is characterized by a relatively sudden disappearance of prothrombin from the blood. This condition usually develops during the first two weeks of life and is often fatal. The cases react favorably to fresh serum treatment.

Whipple advises that the treatment of hemorrhagic disease should follow a careful analysis of the blood as harm can be done by faulty treatment. In cases of low or absent prothrombin, serum which is rich in this element is indicated. It should be given intravenously if possible. Direct transfusion is of even greater value. Treatment of antithrombin cases offers great difficulties. Serum treatment offers no help and it may even stimulate a still greater overproduction of antithrombin. Indirect transfusion is open to the same criticism, as large amounts of thrombin are introduced. If the means by which the antithrombin is neutralized or used up in the normal body can be found out by various animal experiments, the solution of this problem in treatment of antithrombin cases may be reached. At present direct transfusion seems to offer the greatest hope of permanent benefit.

30. **So-Called Syphilis "Antigens."**—In the order of efficiency in the practical serum diagnosis of syphilis the authors arrange the various extracts as follows: 1. Cholesterinized alcoholic extracts of human, pig and beef heart, named in the order of efficiency and safety. It should be remembered that these extracts may yield slight degrees of inhibition of hemolysis with normal serums and must therefore be carefully controlled. Cholesterinized alcoholic extracts of syphilitic liver have the advantages of cholesterin and any additional product of the *Treponema pallidum* which may be present. 2. Plain alcoholic extracts of known syphilitic liver. 3. Acetone-insoluble lipoids (Noguchi). 4. Plain alcoholic extracts of human, pig and beef heart. 5. Acetone extract of syphilitic liver. 6. Plain alcoholic extract of normal liver.

The authors claim that best results are secured in the practical serum diagnosis of syphilis by using several "antigens" with each serum, including plain and cholesterinized extracts. This increases the amount of work and the quantities of the various components of the reaction, but results warrant the former and the latter is readily overcome by using just half the quantities of Wassermann's original technic. Thus 0.1 c.c. of serum may be used with each "antigen" instead of the usual 0.2 c.c., the quantities of complement, amboceptor and corpuscle suspension being equally divided. In this manner 1.0 c.c. of serum (2 to 3 c.c. blood) will be sufficient for conducting the Wassermann and Noguchi reactions with at least two to four "antigens," including the usual serum controls.

31. **Blood-Flow in Hands and Feet with Obvious Anatomic Differences.**—In a man with healing burns on the hands Stewart found that the apparently great vascularity of the new tissue did not correspond to an abnormally great flow. Certain phenomena interpreted as due to a peculiar vasomotor instability of the new vessels were observed in testing the vasomotor reflexes. A relatively good flow in the feet was seen in a man with great and persistent edema of both legs in whom a diagnosis of Hodgkin's disease was made. This was interpreted as indicating obstruction rather on the lymph path than on the venous path. Three cases of unilateral inflammation in the hand, one bacterial and two non-bacterial (gout and a sprain) were compared. The flow in the infected hand was increased, while in the normal hand it was diminished. In the case of gout, while the flow in the inflamed hand was greater than in the normal hand the difference was much less than in the case of infection. The contralateral vasoconstrictor reflexes from the normal to the inflamed hand were very slight in the case of the infected hand; of normal intensity in the case of gout. It is suggested that this indicates the existence of a relative vasoconstrictor block in bacterial inflammation in the interests of a permanently large flow of blood to combat the infection. Temporary anemia of the hand (produced by bandaging) was followed by a moderate increase in the flow in a normal man.

In cases of congenital differences or differences originating in early life between the two hands, the blood-flow in the defective hand corresponded to its functional condition, being of normal magnitude when the power of the hand was good. In a case in which some of the fingers of one hand had been lost by amputation, the flow per unit of volume was distinctly less in the defective than in the intact hand. This is mainly because the surface of the fingers is, in proportion to their bulk, so

much greater than that of the rest of the hand. It is for the same reason that the flow per unit of volume is much greater in the distal half of the normal hand than in the hand as a whole. In a case in which the innominate and the right common carotid arteries had been ligated one month previously, the flow in the right hand was two-sevenths of that in the left, although no pulse could be felt in the radial. Sixteen weeks later the ratio had risen to 1 : 1.3, the flow in the left hand being normal in amount.

32. **Blood-Transfusion and Regeneration in Pernicious Anemia.**—The transfusion of physiologically unaltered blood is held by Vogel and McCurdy to be one of the most promising forms of palliative treatment available in pernicious anemia. The number of cases on record in which a remission of notable degree and considerable duration has followed immediately on a transfusion is so great as to make it impossible to regard these results merely as coincidences. If proper precautions are taken to select a healthy donor and by the usual tests for isohemolysins and isoagglutinins the serum and corpuscles of donor and recipient are found mutually congenial, there is no danger, and the measure should be employed earlier in the disease instead of waiting until the patient is in a desperate condition. There is evidence in favor of the view that greater judgment and accuracy are needed in determining the amount of blood to be transferred. It is quite possible that too large an amount of transferred blood may be injurious, and that more benefit is to be expected from small doses introduced at intervals to be determined by the progress of the patient. The enumeration of the reticulated cells by means of the method of vital staining affords a useful means of gauging the hemopoietic activity of the bone marrow, and by watching the patient's progress in this way the indications for and effects of various therapeutic measures can be well determined and supervised.

33. **Pathogenesis of Contracted Kidney.**—In the severe forms of nephritis, Aschoff says oliguria depends on a glomerular disease and not on a disease of the blood-vessels. Also the polyuria, both in the nephritic as well as in the vascular contracted kidney, in so far as the histologic findings seem to indicate, does not depend on a hypersensitiveness of the still diseased vessels, but on the increased work of the undamaged vessels and their respective filter apparatus, or the only slightly damaged ones, or those which have entirely recovered from their damage.

These forms of polyuria are compensatory or accommodative in nature and, he says, must be sharply distinguished from the acute irritative polyurias of toxic origin. The latter depend on a local damage to the blood-vessel filter apparatus, the former on a functional accommodation, usually accompanied by simultaneous accommodative processes in the rest of the general vascular system. Aschoff emphasizes that the problem of acute nephritis is entirely different from that of the chronic nephropathies, just as in toxicology the problem of acute poisonings differs from that of the chronic. In the acute nephritides we have to do with the question of an acute damage to previously normal functions; in the chronic nephropathies the question is that of the possibilities for compensation and of a failure of these compensatory regulations.

35. **Urinary Nitrogen Affected by Desiccated Thyroid.**—The administration of desiccated thyroid to four patients with dementia praecox caused: (1) an increase in the output of total urinary nitrogen; (2) an increase in the output of creatinin; (3) an increase in the output of indol-acetic acid.

36. **Blood in Epidemic Parotitis.**—In uncomplicated cases of epidemic parotitis, Barach says, the leukocytes are affected in the following manner: By the time the disease has manifested itself — even though the parotitis is not yet developed — a leukopenia is present. The number of lymphocytes is moderately increased and the polynuclears have fallen below normal. When the parotitis is fully developed there is a marked leukopenia, most marked in the cases with the higher temperature and greater parotid involvement. In this leukopenia the polynuclears are relatively and absolutely decreased, the mononuclears are relatively and absolutely increased. As the disease subsides the total number of leukocytes, the polynuclears and mononuclears revert toward their normal proportion. The eosinophils, which are scarcely seen during the activity of the disease, are found in about their usual numbers as the blood returns toward the normal.

37. **Hypertensive Cardiovascular Disease.**—The most prominent symptoms associated with high blood-pressure according to Janeway are circulatory rather than renal. The disease underlying high arterial pressure is predominantly a disease of the circulatory system, and is best designated hypertensive cardiovascular disease, either primary or secondary when preceded by an inflammatory nephritis. Death in this type of cardiovascular disease, among patients in private practice, occurs in the following ways, arranged in the order of their frequency: First, by gradual cardiac insufficiency; second, with uremic symptoms; third, by apoplexy; fourth, from some complicating acute infection; fifth, in an attack of angina pectoris; sixth, from purely accidental and unrelated causes; seventh, in a paroxysm of acute edema of the lungs; eighth, after the manner of cachexia. The early symptoms associated with hypertensive cardiovascular disease have an important prognostic significance which can be utilized therapeutically, particularly for the institution of safeguarding treatment. The early occurrence of symptoms of myocardial weakness, especially dyspnea, indicates a more than 50 per cent. probability of an eventual death by cardiac insufficiency. In these patients, to safeguard the heart is the main therapeutic indication. The early occurrence of anginoid pain on excretion does not indicate a probability of death in an anginal paroxysm for more than one-third of the patients. It does indicate a probable cardiac death of some type. The therapeutic indications here are similar to the foregoing, except as modified by the existence of syphilitic aortitis. Anginal attacks as compared with other cardiac symptoms do not materially affect the expectancy of life.

Polyuria, particularly if nocturnal, indicates the probability of a uremic death for more than 50 per cent. of the patients. It is not essential to safeguard the heart in these patients, unless associated cardiac symptoms exist. Headache, especially that heretofore described as typical, indicates the probability of a uremic death for more than 50 per cent. of the patients, and of the death from apoplexy for a considerable number of the remainder. The therapeutic indications are similar to those of polyuria. Loss of flesh, if marked and progressive, is a symptom of bad prognostic import. The relation of the height of the blood-pressure to prognosis is doubtful. Systolic pressures persistently well above 200 mm. Hg seem to indicate a greater probability of death by uremia or apoplexy. The exact height of the blood-pressure does not seem to have much bearing on the expectancy of life.

The average duration of life in this group of patients, after the onset of symptoms associated with high blood-pressure, has been four years for the men and five for the women. One-half of the whole number of deceased died during the first five years. One-quarter of the number lived between five and ten years, and the remaining quarter over ten years from the appearance of the first symptom. The existence of this considerable number of patients living for a long period of time suggests the need of great caution in making a prognosis as to expectancy of life.

Archives of Pediatrics, New York

November, XXX, No. 11, pp. 801-880

38 Acute Lymphatic Leukemia: Report of Three Cases. F. Huber, New York.
39 Case of Bilateral Hydroureter—Chronic Pyocyaneus Infection. H. Heiman, New York.
40 Oxycephaly. M. S. Reuben and E. E. Cleaver, New York.
41 Metabolism Studies of Amaurotic Family Idiocy, with Clinical and Pathologic Observations. A. Hymanson, New York.
42 Campaign of Prenatal Hygiene in New York. P. Van Ingen, New York.
43 School Child in Its Relation to Eugenics. L. T. Royster, Norfolk, Va.
44 Unusual Phases of Child Hygiene. M. S. Macy, New York.
45 *Picric Acid as Aid in Treatment of Various Skin Lesions. H. B. Wilcox, New York.

45. **Picric Acid in Skin Lesions.**—As an aid in the relief of discomfort attendant on skin lesions and in the production of a cure in them, Wilcox says picric acid has proved its

worth, in some cases being almost a specific and usually of very great assistance. The danger of untoward results by absorption is negligible. The drug is safe and easy to handle, the only drawback being the permanent staining of everything with which it comes in contact. Better results were obtained in the acute than in the chronic eczemas; most striking was the improvement seen in the acute cases having profuse exudation, excoriation and crusting. In the milder cases an aqueous solution painted on several times daily and allowed to dry was used, while in the more severe cases wet dressings of picric acid were applied, held in place by a facial mask. Lessening of the itching and pain attendant on the inflammatory condition was almost immediate. Reduction in the serous exudation and softening of the crusts were equally prompt. Improvement in the induration was rapid, as was the subsequent epithelialization. Such a rapid relief of the suffering attendant on this distressing condition was not obtained by any other means. Picric acid alone was not as efficacious in the subacute and chronic types of the disease; it was found, however, that the curing of the lesions was hastened materially by treatment initiated by two or three days' application of the picric acid solution. The effectiveness of the usual ointments, containing zinc, tar, salicylic acid, calomel, mercury, etc., was much greater than without this preliminary treatment.

Intertrigo was treated with picric acid. The solution was painted on the surfaces of the skin involved and they were kept from coming into contact by thin layers of absorbent cotton. In the more severely infected cases wet dressings were used. Cures were effected in about half the time taken on similar cases treated with ichthyol solutions. The use of picric acid in intertrigo was so satisfactory that a bottle of the aqueous solution is now part of the regular equipment of the dressing carriage, and the nurses, in the routine of changing the babies' napkins, apply it whenever the buttocks appear red or irritated.

Results in the treatment of erysipelas were not uniformly successful. In certain ways they were, however, more satisfactory than the results obtained by the use of any other method. The discomfort and pain attendant on the condition were relieved more quickly and the edema disappeared rapidly. In several cases, desquamation in cast-like masses followed the use of picric acid, leaving a healthy normal skin beneath. A reduction in the temperature in these patients was the rule, occurring with or without marked improvement in the local condition.

In herpes labialis a more rapid drying up of the lesion and fewer extensions of the trouble were obtained with picric acid than with any other method used. With the exception of immediate and constant relief from the itching, children suffering from psoriasis showed no particular response to the treatment. In impetigo, better results were obtained with the use of antiseptic ointments than with picric acid washes. Picric acid ointments were not used on these cases.

Boston Medical and Surgical Journal

December 11, CLXIX, No. 24, pp. 853-892

46 *Errors of Diagnosis in Gall-Bladder Disease from Surgical Point of View. J. H. Gibbon, Philadelphia.
47 *Condition of Upper Region of Abdomen in Relation to Disease of Gall-Bladder. C. G. Stockton, Buffalo, N. Y.
48 Acute and Chronic Suppuration of Middle Ear. G. L. Tobey, Boston.

December 18, No. 25, pp. 893-928

49 Dr. Fitz' Contribution to Pathology. W. T. Councilman, Boston.
50 Dr. Fitz as a Teacher. W. S. Thayer, Boston.
51 Dr. Fitz' Association with Massachusetts General Hospital. H. P. Walcott, Boston.
52 Dr. Fitz' Service to Medical Education. C. W. Eliot, Boston.
53 *Symposium on Reportability and Control of Venereal Diseases. S. L. Strong, Boston.

46. **Diagnosis of Gall-Bladder Disease.**—A history of indigestion which manifests itself soon after eating by a sense of fulness and the eructation of gas; by attacks of pain of sudden origin in the upper right quadrant passing across the abdomen and around to the back and perhaps to the right shoulder-blade, and which are relieved by vomiting; and the finding of marked localized tenderness on palpation when the patient takes a deep breath; certainly suggest gall-bladder trouble. If we have added to these severe colic requiring morphin for relief and followed by a transient jaundice, we are quite justified in making a diagnosis of gall-stones. Gibbon, however, cites cases to illustrate that a patient can have all of these and still not have gall-stones.

47. **Condition of Abdomen and Disease of Gall-Bladder.**—Stockton says a sufferer from infection of the urinary tract may fail to improve with antiseptics or vaccines, but when diet, baths, recreation and open air life are added to the course of treatment, immediate improvement is to be observed. Similar facts are true of diseases of the gall-bladder. It is particularly true because of the close relationship between the gall-bladder and the liver, and the liver, more than any other single organ, feels first the evil results of metabolic deficiency and the harmful effects of the lithemic and gouty diathesis. Attention is directed by Stockton to the importance once attributed to latent gout, to lithemia and to oxalemia. However, these neglected subjects were, and yet are, worthy of closest study. He says that this generation will scarcely listen to one who advises a course of colchicum, alkalies, a diet scientifically prescribed, systematic diaphoretic baths, massage and out-of-door exercise in the cure of infection of the urinary or biliary tract, but surely the time is at hand when the obscure subjects of gout, oxalemia and other metabolic defects will stand again in the foreground, not only in explaining pathogenesis, but in guiding therapeutics.

53. **Venereal Diseases.**—In the early months of 1913 letters were sent by Strong to some fifty physicians in Massachusetts and other states to ascertain the prevailing opinions regarding the reportability and control of venereal diseases by boards of health. As to belief in the reportability and control of venereal diseases by the boards of health this canvass would seem to show that a majority of physicians do believe in it at the present time. On the matter of practical adaptation and enforcement the profession is about equally divided, the prevailing view being that more efficient means of treating these diseases in hospitals must be provided before such a move can be taken. Venereal diseases cannot probably be controlled to the same degree as small-pox, scarlet fever, diphtheria, etc., for some time to come. The desirability of gathering more accurate statistics regarding the efficiency of the treatment of venereal diseases is widely recognized. This should be done by societies already existing or by the formation of new organizations with this special object.

Cleveland Medical Journal

November, XII, No. 11, pp. 723-800

54 Metaplastic Bone and Marrow Formation in Vessel Walls. H. O. Ruh, Cleveland.
55 Epidemiology of Whooping-Cough, Measles, Scarlet Fever and Diphtheria, in Cleveland for 1913. R. G. Perkins and Others, Cleveland.
56 Gland Changes in Endometrium. J. T. Smith, Cleveland.
57 Cause and Treatment of Menstrual Membranes. B. L. Spitzzig, Cleveland.
58 Three Cases of Retinitis Pigmentosa. M. W. Carpenter, Cleveland.
59 Conservation of Faucial Tonsil. S. H. Large, Cleveland.

Illinois Medical Journal, Chicago

December, XXIV, No. 6, pp. 321-388

60 Is Sterilization Destined to be a Social Menace? G. F. Lydston, Chicago.
61 *Treatment of Hernia in Children. A. J. Ochsner, Chicago.
62 Physician and Defectives. C. B. Caldwell, Lincoln.
63 Dry Treatment of Leucorrhea and Cervical Erosions. J. A. Koch, Quincy.
64 *Vaccine and Serum Therapy from Dr. Murphy's Clinic. P. H. Kreuscher, Chicago.
65 Etiology of Hypertrophic Rhinitis. J. A. Pratt, Aurora.
66 Ventilation Rather than Drainage Essential for Cure of Sinus Disease, with Special Reference to Antrum of Highmore. L. Ostrom, Rock Island.
67 Diagnosis and Treatment of Meningeal Complications of Suppurative Diseases of Temporal Bone. N. H. Pierce, Chicago.
68 Operative Treatment of Fractures with Contracture of Attached Muscles. P. B. Magnuson, Chicago.
69 Treatment of Trachoma with Special Reference to Expression and Friction with Darling's Ground Glass Rod. C. G. Darling, Chicago.

61. **Hernia in Children.**—Ochsner points out that approximately 95 per cent. of all cases of hernia in children will

heal spontaneously if the abnormal intra-abdominal pressure is relieved and the hernial sac is kept empty. This can be accomplished by means of trusses or much more rapidly in inguinal and femoral hernia, by placing the child in bed with the foot of the bed elevated; the time required usually does not exceed six weeks and in most cases the hernia will heal by relieving the abnormal intra-abdominal pressure and simply placing the child in bed with the foot of the bed elevated each night from 6 p. m. to 8 a. m. for several months. Children with a tendency to the formation of hernia should be guarded against developing coughs. Their diet should be given at regular times and chosen with a view to avoiding gaseous distention. Constipation should be entirely prevented. In case of boys, phimosis should be relieved if present by operation. Badly nourished and badly cared for children of the poor should be treated in hospitals, being placed in bed in the Trendelenburg position, the cause of increased intra-abdominal pressure being removed at the same time by proper diet and treatment. Operation is indicated (a) in strangulated hernia; (b) in irreducible hernia due to adhesions; (c) in case the opening is unusually large in a free hernia, especially if the condition is hereditary; (d) in reducible hydrocele; (e) in cases with undescended testicle unless they show a tendency toward spontaneous cure.

64. **Vaccine and Serum Therapy.**—Kreuscher concludes his paper as follows: Biologic therapy will in a short time, it is believed, revolutionize the present-day treatment of many medical and surgical lesions, and particularly in the early acute infections. Vaccines have failed in many instances to give the desired results because they were given in cases for which they were never intended. Autognous vaccines should always be given when it is possible to obtain them, but that there are cases in which there is a positive indication for mixed vaccines and occasional cases for stock vaccines. Vaccines must not be expected to reconstruct tissues, organs or joints that have been destroyed by known or unknown pathogenic organisms. That they are prophylactic against such destruction, and to be effective must be timely and intelligently administered. Vaccines and serums, although now used as adjuncts in medical and surgical therapy, have done much to relieve suffering humanity, and have made producers of many who would otherwise have been burdens to society.

Kreuscher reports good results from vaccine therapy in a large variety of cases such as acne, furunculosis and carbunculosis, and infections of the lymph-nodes; chronic rhinitis, asthma, hay-fever, bronchitis, empyema, and tuberculosis with mixed infection; osteomyelitis and infected surgical wounds of all descriptions; chronic enteritis and kidney and bladder infections not associated with obstruction by foreign bodies; low-grade pyogenic or saprophytic infections, and acute and chronic joint infections. In ninety cases of arthritis, three classes were distinguished: (1) That type of deforming arthritis of gradual and insidious onset from which no organism can be obtained, either from the joints or from the blood-stream, or from the secretions or excretions. (2) Those cases, mostly of the chronic variety, which had their origin in ancient infections of the mouth, pharynx, tonsils, respiratory tract, intestinal tract, from which it was impossible to obtain any one specific organism at the time the patients came for treatment, but which yielded to mixed vaccines. (3) Those patients with acute or chronic infections of the joints in which a distinct causative organism or organisms could not be isolated.

Journal of Cutaneous Diseases, New York

December, XXXI, No. 12, pp. 975-1062

70 *Vaccine Therapy as Applied to Cutaneous Diseases. T. C. Gilchrist, Baltimore.
71 Metabolism of Dermatitis Herpetiformis and Prurigo: Their Relation to Anaphylaxis. H. J. Schwartz, New York.
72 Attempt to Determine Bacterial Etiology of Acne with Complement Fixation Reaction. M. Haase, Memphis, Tenn.

70. **Vaccine Therapy.**—Gilchrist speaks of his six years of experience with vaccine therapy in the treatment of cutaneous diseases (about 800 cases). He has had brilliant results, moderate successes and many failures, probably about in equal proportions. He emphasizes that whenever an organism is obtained in pure culture from a case of skin disease, it is only proper that an autogenous vaccine should be used, especially if it is chronic or subacute; or, when the disease is acute, and it does not yield to the usual modes of treatment and becomes dangerous. It is still necessary to pay careful attention to diet, to the regular functions of the body, to other internal and external treatments, as well as the application of Roentgen rays in some cases. Many infectious diseases of the skin do not require vaccines at all, as, for example, impetigo contagiosa, in which in the very large majority of the cases, local applications cause the lesions to disappear in a few days. Vaccines are of the greatest value in chronic or subacute and especially relapsing staphylococcic affections of the skin, where there is a lack of production of antibodies being worn out. Vaccines are of great value in the treatment of relapsing furunculosis, sycosis vulgaris, pustular dermatitis and folliculitis.

In the various forms of eczema the results vary, and Gilchrist says that if a case of pustular, weeping or vesicular eczema is chronic, or relapses, and does not yield rapidly to the usual treatment, then vaccines should be tried. In rosacea the treatment yielded some very marked results. In connection with acne vulgaris, vaccine therapy has proved to be of great value in the treatment. As the result of his experience in the treatment of about 400 cases of acne, Gilchrist finds that a stock *bacillus acne* vaccine made in the hospital laboratory is as efficacious as an autogenous one. Gilchrist has also used ointments made up with various skin organisms successfully. It appears as if a localized immunity was produced by the application of such ointments. The use of a filtrate from living organism was tried with some success in three cases of blastomycosis. Filtrates from the staphylococci were also used in staphylococcic affections, but not with beneficial results.

Journal-Lancet, Minneapolis

December 1, XXXIII, No. 23, pp. 653-682

73 Tonsils: Some Pathologic Reasons for Their Removal. L. N. Grosvenor, Huron, S. Dak.
74 Common Infections That Are Erroneously Diagnosed as Grip. C. L. Sherman, Luverne, Minn.
75 Ocular and Aural Vertigo. W. R. Murray, Minneapolis.
76 Diagnosis of Surgical Conditions of Kidney and Ureter. V. J. LaRose, Bismarck, N. Dak.

December 15, No. 24, pp. 685-708

77 Preparatory and Postoperative Treatment. F. J. Plondke, St. Paul.
78 Medical Ethics. S. J. Paulson, Flaxton, N. Dak.
79 Postoperative Conditions. R. C. Murdy, Aberdeen, S. Dak.
80 Utility of Public Health Work. F. R. Smyth, Bismarck, N. Dak.

Kentucky Medical Journal, Bowling Green

December 1, XI, No. 23, pp. 1003-1042

81 Contracture of Neck of Bladder. G. H. Day, Louisville.
82 Prostatic Hypertrophy. H. G. Hamer, Indianapolis.
83 Atony of Bladder. C. L. Wheeler, Lexington.
84 Half a Century in Medicine. J. F. Freeman, Chestwood.
85 Placenta Praevia. J. J. Wakefield, Bloomfield.
86 Anesthetics and Anesthesia in Labor. H. D. Rodman, Bardstown.
87 Care of Aged. D. O. Hancock, Henderson.
88 Acute Pemphigus Vegetans. S. J. Harris, Philpot.
89 Therapeutics of Childhood. E. A. Cram, Butler.
90 Typhoid and Its Treatment. S. J. Simmons, Gradyville.
91 *Extra-Uterine Pregnancy, Diagnosis and Treatment. N. C. Witt, Franklin.
92 Estimation of Blood-Pressure in General Practice. E. F. Horine, Louisville.
93 Chronic Constipation; Its Causes and Treatment. C. M. Rice, Southerland.
94 Hygiene and Sanitation in Fourth-Class City. M. C. Boyd, Cynthiana.
95 Pioneer Medical Journalism in Kentucky. J. G. Hendricks, Central City.
96 Hernia in Children. J. B. Richardson, Louisville.

91. Abstracted in THE JOURNAL, Sept. 20, p. 990.

Medical Record, New York

December 13, LXXXIV, No. 24, pp. 1059-1104

97 Surgical Treatment of Diffuse Suppurative Labyrinthitis. P. D. Kerrison, New York.
98 Radium and Roentgen Therapy in Cancer. I. Levin, New York.
99 Radium in Treatment of Cancer. W. H. Diefenbach, New York.
100 Chorioepithelioma; Report of Fatal Case. W. M. Hartshorn, New York.

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101 Acute Phlegmonous Cholecystitis: Report of Case with Gangrenous Enteritis. A. E. Roussel, Philadelphia.
102 Roentgenography in Pulmonary Gangrene. E. Gros and M. E. Rehfuss, Paris, France.

December 20, No. 25, pp. 1105-1150

103 Aortitis Syphilitica. I. W. Held, New York.
104 *Carcinoma Question as It Pertains to Uterus. C. W. Barrett, Chicago.
105 Thirty-Three Cases of Thyroid Disease. B. Davidson, Brooklyn, N. Y.
106 School Medical Inspection in New York City. S. J. Baker, New York.
107 *Comparison of Methods for Diagnosis of Tuberculosis by Sputum Examinations. W. S. Davis, Albany, N. Y.
108 Some Early Symptoms of Mental Disturbances. A. K. Petery, Norristown, Pa.
109 *Vaccine Therapy of Pertussis. P. Luttinger, New York.
110 Turbinotomy. E. A. Griffin, Brooklyn.

104. Carcinoma Question as It Pertains to Uterus.—Barrett emphasizes the following points:

1. The epithelial cell reaction, known as carcinoma, is probably due to a microorganism or agent yet unknown. 2. The cell reaction now known as carcinoma may prove to be a primarily protective tissue reaction against the cancer infection. 3. Women come to the age of frequency of cancer with many benign conditions which serve an opportunity for the introduction of this agent or furnish the irritation which lights up the malignant proliferating process, or both. 4. Proper attention to these conditions would decidedly reduce cancer of the uterus. 5. These conditions receive a large amount of neglect from the profession and the laity. 6. Correction of pelvic pathology as it occurs, and especially as a woman nears the end of the child-bearing period, will lessen her chances of developing cancer and will otherwise vastly increase her comfort during the 25 or 40 years of life she should have remaining. 7. There is a fair chance of eradicating early cancer, with almost no chance of other than ameliorating late cancer. 8. Education of the profession and of the public on these points is sorely needed. 9. Honesty and intelligence should combine not to watch precancerous suspicions, or early cancer pathology, but to eradicate pathology whether benign or malignant. In other words pathology has no place in the human body, much less in an organ of great cancer frequency. We know no tumor, swelling, erosion, ulceration, cystic degeneration, or irritation that is best to go untreated; if it does not yield to simpler means it should be removed. 10. Early radical removal is at present our best method of attack when cancer has once begun, but it is not ideal. We may hope for a better method. 11. Late cancer can often be checked, symptoms ameliorated, nutrition improved, comparative comfort restored, life prolonged, and perhaps occasionally the cancer completely eradicated by single or repeated cauterization, and the same results are claimed on good authority for other measures, but these do not offer enough hope to displace early surgical measures. 12. Surgery must find its greatest success, not in more radical removal, but in earlier opportunity.

107. Diagnosis of Tuberculosis by Sputum Examinations.—In utilizing the method of separating the tubercle bacilli by treating the sputum simply with an equal volume of saturated aqueous solution of common salt, thoroughly shaking and allowing to stand for six hours, then skimming the surface with the platinum loop and making therewith a smear on a slide, and stained either slowly in the cold or if time is an object by hot stains, Davis believes that a distinctly advantageous and accurate method for the routine diagnosis of *Bacillus tuberculosis* in sputum is offered. No special apparatus such as shaker or centrifuge is required, the proven accuracy of findings is 99 per cent. (the superior of any other method yet brought forward for comparative valuation) and it would be possible for the attending physician to himself treat the sputum, skim the surface and make the smear on the slide which would then be all that would be requisite to forward to the laboratory for the expert diagnostic stain and examination.

If time is a factor in the technic of staining for microscopic diagnosis, resort to hot staining is recommended, and in this case, as soon as the specimen is fixed on the slide, immerse the slide in the carbol fuchsin stain, itself maintained in a hot-water bath at 100 C. Allow to remain in the hot stain for three minutes; remove and wash with tap water. Decolorize cold with acid alcohol for eight seconds. Wash with tap water and stain with cold methylene blue for one minute, wash thoroughly with tap water and dry the specimen, now ready for the microscopic examination.

109. Vaccine Therapy of Pertussis.—Pertussis vaccine, used by Luttinger in ten cases of whooping-cough, apparently reduced the severity and shortened the duration of the disease. To be effective, Luttinger says, the vaccine should be given in much larger doses and at shorter intervals than hitherto recommended. A dose of 50,000,000 bacteria should be tested as a prophylactic.

New York Medical Journal

December 13, XCVIII, No. 24, pp. 1141-1192

111 Pus in Urine. V. C. Pedersen, New York.
112 Theory and Treatment of Diabetes. W. E. Fitch, New York.
113 Physical, Mental and Moral Vigor of Our Schoolchildren. S. A. Knopf, New York.
114 Spina Bifida. J. P. Hoguet, New York.
115 Kinetic Neuroses and Psychoses. T. J. Orbison, Los Angeles, Cal.
116 Intestinal Obstruction due to Fibroma. R. M. Alexander, Wernersville, Pa.
117 Medical Sociology in Public Schools. M. S. Macy, New York.
118 Epidemic of Trichinosis in Pennsylvania. J. Ballagi, Homestead, Pa.

December 20, No. 25, pp. 1193-1240

119 Question of Diabetes at International Congress of Medicine in London. R. Lépine, Lyons, France.
120 Orbital Abscess from Infection Through Ethmoid: Report of Two Cases. J. O. Roe, Rochester.
121 *Epilepsy. E. H. Mullan, New York.
122 Bacteriology of Pyorrhea Alveolaris. C. P. Brown, Philadelphia.
123 Mechanotherapeutics of Acute Croupous Pneumonia. E. F. Cyrlax, London, England.
124 Cerebrospinal Fluid and Its Diagnostic Significance. A. I. Ruberstone, Philadelphia.
125 Pellagra in Maine. E. W. Gehring, Portland, Me.
126 Atypical Infantile Paralysis. F. L. Wachenheim, New York.

121. Epilepsy.—The advantages of state institutions for epileptics are enumerated by Mullan as follows:

1. For economic reasons, a collection of patients in a colony or hospital can receive the most modern care and treatment, the like of which could not be furnished to an individual. 2. The patients in such a place lead a well regulated life under careful supervision. Exercise, amusement, food, baths, work, medication, etc., are carefully prescribed to suit individual cases. 3. The patients have the benefit of experienced physicians and nurses who are constantly becoming more expert. 4. "Idleness is the devil's workshop," is especially true in regard to epileptics. At these colonies various kinds of work can be afforded as best suited to the degree of learning and need of the individual. On colony farms, outdoor work, which is so beneficial, can be afforded. Farm work, gardening, dairy work, poultry raising, can be indulged in, and the progress of dementia is thus retarded. 5. The colony is able to maintain a graded school with trained and experienced teachers. 6. In a few instances patients who are doing fairly well may be granted furloughs. These frequently act as real stimulants to the epileptics, and their visits home, often in an improved condition, are appreciated by their relatives. 7. Being fellow sufferers, the epileptics have sympathies and interests in common. They are thus enabled to bear their sorrows more patiently, and life is made comparatively happy for them. 8. In colony life, their physical and mental condition actually improves. This is frequently shown by the thin and delicate becoming stout and resisting soon after their arrival. The seizures become less severe and the interval between them often lengthens. In fact, their lives are prolonged. 9. In independent colonies, the epileptic, on account of his physical or mental fit, will not afford an objectionable sight to the feebleminded or other invalids with whom he is now often housed. 10. In such institutions the sexes can be separated, which is such an important step in preventing the reproduction of epileptics and other defectives. 11. Being together in large numbers, they afford the opportunity for clinical, pathological and therapeutic research. Such research is benefiting and will continue to benefit epileptics, and it will be instrumental in diminishing the incidence of this dreadful malady.

At present in thirty-four states (including the District of Columbia), epileptics are cared for in public and private hospitals, sanatoriums, institutions for incurables, pauper asylums and homes. State hospitals or colonies established solely for the purpose of treating and caring for epileptics are nine in number. They are located in Connecticut, Indiana, Kansas, Massachusetts, New Jersey, New York, Ohio, Texas and Virginia. Other state institutions in which epileptics are cared for are in Michigan, Minnesota, Missouri, North Carolina and Wyoming. The following states now have laws which wholly or in part prohibit the marriage of epileptics: Connecticut, Indiana, Kansas, Michigan, Minnesota, New Jersey, Ohio, Utah and Washington.

Texas State Journal of Medicine, Fort Worth

December, IX, No. 8, pp. 235-266

127 Importance of Early Action in Controlling Epidemic Diseases. G. M. Guiteras, Galveston.
128 Eternal Question. W. C. Dickey, Memphis.
129 Some Needed Reforms in Practice of Gynecology. B. Saunders, Fort Worth.
130 Ovarian Neuralgia. L. A. Suggs, Fort Worth.
131 Bone Implantation in Potts' Disease. C. S. Venable, San Antonio.
132 Blackwater Fever: Its Causes and Treatment. A. Woldert, Tyler.
133 Treatment of Surgical Shock. R. L. Ramey, El Paso.
134 Relative Importance of Human and Bovine Tuberculosis Infections in Man. V. H. Keiller, Galveston.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

October 25, XXXIV, No. 17, pp. 381-404

1 Common Peritoneal Folds and Fossae. A. C. Magarey.
2 Case of Pneumococcus Peritonitis. J. P. Hastins.

November 1, No. 18, pp. 405-424

3 Rat Leprosy in North Queensland. H. Priestly.

November 8, No. 19, pp. 425-450

4 Recognized Scheme for Medical Inspection of Children Attending State Schools of New South Wales. C. S. Willis.
5 Lactescent Ascites. J. B. Nash.

Nov. 15, No. 20, pp. 451-474

6 Movable Kidney. E. S. Jackson.
7 Diagnosis and Treatment of Some Renal Affections. T. Ambrose.
8 *Large Inguinal Hernia. H. Norrie.

8. Large Inguinal Hernia.—On opening the sac in this case it was found to contain the cecum and a long healthy appendix, 6 feet of small intestine, with a Meckel's diverticulum 3½ inches in length, the left ovary and tube, and left round ligament. The total length was 14½ inches, and the circumference 21 inches.

British Medical Journal, London

November 29, II, No. 2761, pp. 1417-1468

9 Paroxysmal Dyspnea in Cardiorenal Patients: Special Reference to "Cardiac" and "Uremic" Asthma. T. Lewis.
10 Clinical and Bacteriologic Aspects of Leprosy. H. Bayon.
11 *Report of Seven Fatal Cases of Acute Pancreatitis. A. J. Blaxland and G. P. C. Claridge.
12 *Diagnosis and Treatment of Intestinal Obstruction. E. Deanesly.
13 Case Contributing to Study of Fever without Other Physical Signs. H. G. Lawrence.
14 Significance of Frequency and Tenesmus in Acute Cystitis. O. Heath.
15 Simple Splint for Flail Elbow. R. Parker.
16 *Treatment of Tuberculous Peritonitis. H. Lawrie.
17 Right Shoulder Pain in Perforated Duodenal Ulcer. C. P. Burd.

December 6, No. 2762, pp. 1469-1520

18 *Large Intestine and Its Work. J. Griffiths.
19 Health, Fatigue and Repose. W. Stirling.
20 *Traumatic Intramuscular Ossification. J. Morley.
21 Operative Treatment of Hemorrhoids. H. G. Anderson.
22 Rheumatic Nodules (Rheumatismus Nodosus) Associated with Rheumatic Torticollis. F. P. Weber.
23 Daily Weight Chart as Guide to Tuberculin. H. W. Crowe.
24 Bacteriology of Mouth in Maori Children. H. P. Pickerill and S. T. Chamtaloup.

11. Acute Pancreatitis.—This condition in the authors' opinion is caused by the entrance of bile or duodenal contents into the pancreatic duct, which there activates the pancreatic ferment and causes a digestion of the gland, a circumstance which may be followed by the invasion of microorganisms. In some cases this digestion apparently takes place without any invasion by microorganisms. This digestion in the gland affects the blood-vessels, leading to hemorrhage in and around the gland. This process then spreads beyond the confines of the gland, leading to the phenomenon of fat necrosis in other parts of the abdomen. It appears that fat necrosis is not seen in cases in which pancreatic juice alone has found its way into the peritoneal cavity, but that when this is mixed with bile the phenomenon occurs. The authors claim that this theory of pancreatitis seems to be borne out by the pathologic findings in their cases, in which all stages of the condition were met with, from the very earliest in which the cells still stain fairly well but are seen to be separated from each other and from the basement membrane, to the most advanced, in which all indication of the structure of the gland has disappeared and only a few nuclear fragments are seen. These conditions, they maintain, are due to the invasion of the gland by bile or bile-containing fluid by way of the ducts. In some of these cases, too, inflammatory reaction and abscess formation were present in addition to the above features, and in these cases they suggest that the gland has been secondarily infected by some microorganism. If this infection does not take place, no inflammatory reaction is seen in the gland at all, and the case is not one of pancreatitis but pancreatic necrosis.

The very acute symptoms observed in these cases is due, they suggest, to the absorption of toxic products of the digestion going on in the gland. Though five of their patients had gall-stones, only one gave a history of biliary colic or jaundice. Three patients had had bad "indigestion" for over a year with or without hematemesis, which made them suspect perforated gastric or duodenal ulcer. In all the cases the condition started suddenly with pain and vomiting, the latter being frequent and copious, as is usually noted. In all the abdomen was rigid and tender; in one case the tenderness was most noticeable in the upper part of the abdomen, and in once case in the left loin. In two cases there was obvious dulness on percussion above the pubes. An extreme degree of collapse was a marked feature in four of the cases. In one case the patient was pulseless at the wrist within twenty-four hours of the onset, and remained so for twenty-four hours after the operation, when she began to improve. Two cases ended fatally within twenty-four hours of the onset of acute symptoms.

12. Intestinal Obstruction.—Deanesly emphasizes the following points: Large numbers of patients die every year from intestinal obstruction due entirely to mechanical causes which are remediable by surgical operation and by no other means. The majority of these fatal cases are not operated on until a late stage in the disease, and most of them are in the first instance treated by drugs or applications, internal or external, which cannot possibly give relief. The difficulty of diagnosing the existence of mechanical obstruction is increased by the popular confusion between constipation—that is, temporary suspension of the motor functions of the bowels—and real obstruction—that is, mechanical hindrance at a definite point. The consequences of the latter condition are so serious and so urgent that the question of its existence should be carefully considered in every case of abdominal illness in which pain is associated with vomiting, distention and absence of recent bowel evacuation. If the possibility of obstruction cannot be excluded after a short period of observation, surgical assistance should be obtained as soon as possible. Obstruction of the bowels within the abdomen is just as much a surgical disease as strangulated hernia. The difficulty of the diagnosis in the former merely adds to its dangers, the greatest of which is delay.

16. Treatment of Tuberculous Peritonitis.—In two apparently hopeless cases of tuberculous peritonitis in children Lawrie found the administration of the following mixture very beneficial:

		gm.	or c.c.
℞	Calcii carbonatis (precip.)	8	3 ii
	Olei creosoti	2	♏ xxxii
	Mucilaginis tragacanthi q. s.		
	Potassii iodidi	1	gr. xvi
	Saccharini	50	gr. viii
	Olei menthae pip. vel anisi	33	♏ v
	Aq. ad	240	ʒ viii

Dose.—Two drams every four hours for a child of 5 years.

Tincture of opium or compound tincture of camphor may be added for the relief of pain and diarrhea, if present. The patients were two boys, aged 3 and 5 years, respectively. The younger had large, easily palpable masses in his bulging abdomen, and all the other symptoms well developed. He had been ill for a long time, gradually getting worse, and his parents had been informed that there was little or no hope of recovery. The elder, Lawrie saw eighteen months ago; the intestines and peritoneal glands were matted into one mass about the size of a small football, somewhat irregular in outline, and not only palpable but observable under the abdominal wall. The boy took the mixture, supplemented by petroleum emulsion. A diet of easily digested food, principally of milk, was prescribed.

The first boy who took cod-liver oil emulsion along with the mixture, began at once to improve, and in two months the abdominal tumors had disappeared and his general health vastly improved. There has not been any recurrence, and to-day he is a fine specimen of a strong and healthy boy. The second boy like the first, began to improve directly he came under treatment, and in two months the abdominal mass had shrunk to the size of a tangerine orange, and all the other symptoms, such as fever, pain and diarrhea, disappeared. At the end of another month Lawrie failed to detect any lump at all, and his general condition was much improved. He has continued in good health for over a year, and is a bright and healthy looking lad.

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18. **Large Intestine.**—The work of the colon, apart from its use as a storage and expeller of the common refuse, is, so far as Griffiths has been able to discover, (1) to dry the contents as they leave the small intestine, and (2) to get some useful substance out of the refuse while it is mixed and churned and undergoing fermentation with, it may be, disintegration. This substance, though as yet of unknown quality, gives to the body that which it requires for the development of that feeling which is best described as being "in the best of health and spirits"; further, it is something of all important value to the individual. Excess of it is deleterious; lack of it is attended with pronounced changes in general nutrition, and perhaps progressive inanition, leading after a variable time to death from simple loss of vigor and strength.

20. **Traumatic Intramuscular Ossification.**—Traumatic intramuscular ossification ("myositis ossificans"), Morley believes, is due to migration of osteoblasts into adjacent contused muscle and blood-clot, after destruction of the periosteum and loss of its function as a limiting membrane to the growth of bone. It is essentially the same process as callus formation. The condition may be produced experimentally in animals by reproducing the same mechanical conditions by an aseptic open operation. In a case of difficulty in diagnosis from sarcoma, open exploration is advisable. Simple excision is usually, though not invariably, followed by recurrence. Conservative treatment condemns the patient to a long period of disability, which may occasionally be permanent. Excision combined with grafting of deep fascia on to the denuded surface of bone gives the best prospect of rapid and complete recovery, and is urged for all cases not complicated by ossifying periarthritis. Osteoblasts and chondroblasts, Morley says, are the same cells under different conditions of nutrition.

Clinical Journal, London

October 29, XLII, No. 30, pp. 465-480

25 *Inguinal Hernia in Child. H. S. Clogg.
26 Operative Treatment of Fractures. R. Warren.
27 Ruptured Gastric and Duodenal Ulcers. A. Fullerton.

November 5, No. 31, pp. 481-496

28 Some Disturbances of Singing Voice. D. Grant.
29 *Modern Treatment of Heart-Disease in Children. E. Cautley.
30 *Prevention of Mouth-Breathing. W. W. James.
31 Diagnosis of Ureterovaginal and Vesicovaginal Fistulae. A. H. Burgess.

November 12, No. 32, pp. 497-512

32 Differential Diagnosis of Chronic Gastric Disorders. R. Hutchison.
33 Some Disturbances of Singing Voice. D. Grant.
34 Carcinoma Recti. J. A. C. Macewen.

November 19, No. 33, pp. 514-528

35 Few Examples of Grafting. A. Maclennan.
36 Differential Diagnosis of Chronic Gastric Disorders. R. Hutchison.

Nov. 26, No. 34, pp. 529-544

37 Use of Celluloid Splints in Treatment of Acute Cases of Poliomyelitis and Other Nervous Disorders. F. E. Batten.
38 Differential Diagnosis of Chronic Gastric Disorders. R. Hutchison.
39 Purpura. J. G. Taylor.

Dec. 3, No. 35, pp. 545-560

40 Psoriasis. H. G. Adamson.
41 Differential Diagnosis of Chronic Gastric Disorders. R. Hutchison
42 Does Herpes Zoster Ever Occur Traumatically? H. G. Langwill.

25. **Inguinal Hernia in Child.**—Speaking of the truss treatment of inguinal hernia, Clogg says that the processus vaginalis in normal development should be obliterated at or shortly after birth. Peritoneal development goes on after birth. During development certain layers of peritoneum may fuse together and layers of peritoneum may disappear, and such changes in the peritoneum occur during the first few months of life. The processus vaginalis, being originally peritoneum, may disappear, and such changes in the peritoneum occur during the first few months of life. The processus may conceivably, therefore, undergo complete development after birth, i. e., it may become naturally obliterated. Up to what age such obliterative changes may be anticipated is merely a matter of conjecture. Obliterative changes could obviously not take place if the hernia were allowed to descend. The only possible value of a truss, therefore, is in restraining the descent of the hernia and thus allowing Nature to proceed with normal development. A truss may act, therefore, indirectly in the cure of a hernia. As a direct cure it has no value. Its pressure cannot possibly have any influence in forming acquired adhesions in the sac, which may eventually lead to the cavity disappearing, or even in obliterating the patency of the neck of the sac and excluding it from communication with the peritoneal cavity. During the first few months of life Clogg advises a truss, solely with the object of restraining the hernia, and in order that this may be effective it must be worn constantly. He advises this treatment, except in special circumstances, up to about the fourth or sixth month. If a hernia be seen at this age he deems it exceedingly improbable that a natural cure will result, and in the absence of any contra-indications advises operation.

29. **Heart-Disease in Children.**—In all inflammatory cases in which there is the least suspicion of rheumatism, Cautley says, salicylates and alkalies must be prescribed. The patient is kept in bed on a light milk and carbohydrate diet, fruit and vegetable soups being allowed as a change. Complete rest and a trained nurse are necessary. Blistering or counter-irritants may be used, but are chiefly efficacious in pericarditis. Vaccines and serums are of problematic value. In infective endocarditis—fortunately infrequent in children—Cautley's experience with vaccines and serums has proved unsatisfactory. It is difficult to grow the incriminated organism from the blood, difficult to prove that the organism obtained in cultures is the one causing the disease, and difficult to obtain good results from an autogenous vaccine or from a polyvalent serum. Recourse is sometimes had to paracentesis for the relief of pericardial effusion. It is rarely essential in rheumatic pericarditis, for even the largest effusions may be absorbed. For purulent effusions the pericardium must be opened and drained. Another and more modern operation, sometimes called cardiolysis, is resection of the rib cartilages over the cardiac area, for the relief of general adhesion of the pericardium. The treatment of cardiac failure and backward pressure is the same at all ages. For extreme edema of the lower limbs multiple punctures and sterilized dressings are more satisfactory than the insertion of Southey's tubes. Iron and glycerophosphates are given when compensation is established. Compensation is maintained by regulation of the mode of life, diet, sleep, hygiene and exercise. In every case it is essential to recognize the cause and differentiate the type of cardiac disease and clearly to understand its probable course and prognosis.

30. **Prevention of Mouth-Breathing.**—The apparatus used by James consists of a wire frame over which sheet rubber (dental rubberdam) is stretched; it is placed inside the lips and cheeks, resting on the outer surfaces of the teeth and gums. The wires are fitted and soldered together and then struck between a zinc case and a lead die in order to secure an accurate fit. Gold wire is perhaps the best, but German silver, gilded, is quite serviceable. The apparatus should be sufficiently large that it is steady when in position, extending back to the second premolars. No danger exists from swallowing or displacement with an apparatus of this size. The apparatus is worn only at night except perhaps for a few hours in the day in order that the patient may become accustomed to it, or to determine that nasal respiration is possible. In small children the apparatus may be used in the day without any rubber to prevent thumb-sucking—a habit most conducive to mouth-breathing at night when the thumb is withheld. When the apparatus is in position mouth-breathing is quite impossible. There is little difficulty in quickly removing the apparatus if it should be necessary.

Journal of Obstetrics and Gynecology of British Empire, London

October, XXIV, No. 4, 197-248

43 Jointed Obstetric Forceps. A. Doran.
44 *Value of Abderhalden's Test for Pregnancy. H. Williamson.
45 Two Cases of Contraction Ring Complicating Labor. G. G. Alderson.
46 Perithelioma of Uterus. W. F. Shaw.
47 Case of Puerperal Pyemia. A. Donald.
48 Operation for Incontinence of Urine. R. Worrall.

44. **Abderhalden's Test for Pregnancy.**—For experimental purposes the test was applied by Williamson to fifty patients. Of these, twenty women were either in the last three months of pregnancy or had recently been delivered. In each case the

result was positive. Thirty women were not pregnant, in all thirty the reaction was negative. Williamson regards it as established that the serum of pregnant women contains a ferment specific to placental albumen. This ferment can be demonstrated from the eighth week of pregnancy until ten days after delivery. Its presence may be demonstrated by the polarimeter or dialysis. The former method is the more reliable in that the sources of error are fewer. The accurracy of the test depends on the most scrupulous care in details, and it is only in the hands of an expert that the results can be relied on. The ferment is found only when chorionic tissue is present in the body. It is probable that under other conditions the color reactions and optical effects produced by the test may be simulated.

Lancet, London

November 29, II, No. 4709, pp. 1517-1598

49 Development of Our Knowledge of Diseases of Heart. T. W. Griffith.
50 Astrology in Medicine. C. A. Mercier.
51 Leprosy Problem in British Empire. H. Bayon.
52 Tuberculosis of Eye. S. Stephenson.
53 Tuberculous Meningitis (Bovine Infection) in Infant Aged 12 Weeks. G. A. Allan.
54 *Examination of Tuberculous Pleural Fluids. S. R. Gloyne.
55 Free Air Treatment of Skin Grafts. A. R. Jones.
56 Eye Coloration in Relation to Incidence, Severity and Fatality of Scarlet Fever and Diphtheria. A. L. Tykes.

December 6, No. 4710, pp. 1599-1676

57 Value of Clinical Polygraph in Certain Cardiac Disorders. B. Parson-Smith.
58 Change Occurring in Pelvis in Case of Prepuberal Atrophy of Testicles. H. B. Shaw and R. H. Cooper.
59 Treatment of Yaws by Intramuscular Injections of Salvarsan. R. P. Cockin.
60 Chronic Polyorromenitis (Multiple Serositis) Simulating Intrathoracic Growth. R. G. Hann.
61 Some Causes of Disappointment following Removal of Tonsils and Adenoids. W. Wilson.
62 Perforation of Gastric Ulcers into Heart: Report of Case. F. E. Tylecote.

54. **Examination of Tuberculous Pleural Fluids.**—The finding of tubercle bacilli, Gloyne says, is the only conclusive evidence of tuberculous infection. In his series of twenty-five cases bacilli were found in 40 per cent. of the serous and 71.43 per cent. of the purulent fluids. Ordinary film preparations are satisfactory in purulent fluids, but in serous more careful measures are often necessary. In large effusions without clot sedimentation and centrifugation of the fluid may be sufficient. When present, the examination of clot offers the best hope of finding bacilli. In serous effusions the next best test is the lymphocyte count. Failing this, the tests in order of value are (*a*) protein content (usually 4 to 6 per cent.) and (*b*) specific gravity (about 1.018). Sterility on ordinary culture media is suggestive of tubercle in purulent fluids. It is not of much value in serous exudates, since some other effusions and most transfusions are also sterile. Secondary infection was only noted in one instance.

Sci-I-Kwai Medical Journal, Tokyo

November, XXXII, No. 11, pp. 127-132

63 *Some Experiments on Transplantation of Cancer in Japanese Mouse. S. Higuchi.

63. **Transplantation of Cancer in Japanese Mouse.**—Higuchi discovered a primary cancer in a Japanese mouse which had continued for thirty generations after transplantation. He injected the primary cancer obtained into the subcutaneous tissue of the axilla of 20 Japanese and 9 English mice. Not one of the English mice showed development, but among the Japanese there were 2 with good results. Of these one was absorbed in a few days and only one continued to grow. This is the first generation and in after experiments only the Japanese mouse tumor was used. This tumor was injected into 20 mice and showed 7 positive results by the seventeenth day. These are the third generation and of these one died on the thirty-first day. The tumors of the remaining 6 gradually grew in size and 2 formed ulcers as the result of necrosis. The tumor (third generation) was injected in 21 mice with 9 positive results by the seventeenth day and these are the fourth generation. Of these, many died or were absorbed, and there were only 3 remaining by the thirty-first day. A tumor from the fourth generation was injected into 15 mice with 9 positive results by the seventeenth day (fifth generation) and 5 remained on the thirty-first day.

A tumor of the fifth generation was injected into 21 mice with 9 positive results by the sixteenth day (sixth generation) and only 6 remained on the thirtieth day. A tumor of the sixth generation was injected into 21 mice with 17 positive results by the seventeenth day (seventh generation) and 13 were still alive on the thirty-first day. A tumor of the seventh generation was injected into 20 mice with 7 positive results by the seventeenth day (eighth generation) and 4 remained on the thirty-first day. A tumor of the eighth generation was injected in 21 mice with 9 positive results by the fifteenth day (ninth generation) and 5 remained alive on the twenty-ninth day. A tumor of the ninth generation was injected into 23 mice with 13 positive by the seventeenth day (tenth generation). The total number of mice used for transplantation was 285 in all. The tumor developed by the seventh day in 109 (38.2 per cent.) and by the thirty-first day in 63, (22.2 per cent.).

In looking over the experience of transplantation during one year, the following facts were obtained by Higuchi. This cancerous tumor was inoculated into the English mouse without any development. The injected tumor gradually grew in size until the third generation and then began to decrease, but again grew larger and became remarkably increased in the tenth generation. The highest number growing after injection was in the seventh generation, i. e., 17 out of 21 (81 per cent.). Then the power of development showed some decrease until the tenth generation, but in this period 13 out of 23 (57 per cent.) showed the positive results and seemed to recover the power. When the tumor grew in size the central part became necrosed and formed an ulcer. Higuchi was able to obtain positive results by injecting the tumor six hours after the death of a mouse.

Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

November, II, No. 11, pp. 305-364

64 The Hysterograph for Automatic Registration of Contractions of Puerperal Uterus. M. Fabre.
65 *Solitary Cyst in Kidney. A. Sarkissantz.
66 *Conservative Versus Radical Operative Treatment of Ovarian Cysts. J. Vanverts.
67 Indications and Technic for Transfusion of Blood. A. Levant.

65. **Solitary Cyst in the Kidney.**—The cyst was as large as a child's head and encroached so much on the pelvis that it had been diagnosed as an ovarian cyst. Microscopic examination after the removal of the kidney revealed tubercle bacilli. The course of the case at the time and later and the integrity of the other kidney and lungs confirmed the assumption that the case was one of unilateral renal tuberculosis casually discovered and removed in time to eradicate the disease from the system.

66. **Conservative or Radical Operative Treatment of Ovarian Cysts.**—Vanverts has never had occasion to regret having left the sound mate in his seventeen cases of cystic disease of one ovary. In fourteen other cases he removed the second ovary and the uterus on account of pathologic conditions in the latter or in the tubes. In one of the cases in the first group he removed the cystic and much degenerated ovary and then cut out from the second ovary the part containing a cyst, leaving the rest intact. The woman has passed through a normal pregnancy since, and mother and child are thriving.

Bulletin de l'Académie de Médecine, Paris

November 18, LXXVII, No. 36, pp. 397-444

68 Nodose Erythema and Tubercle Bacilli in the Blood Stream. L. Landouzy.
69 *Decompressive Trephining on Sound Side in Certain Cases of Cerebral Hemorrhage. P. Marie.
70 Technic for Complete Destruction of the Viscera in Examining for Mineral Poisons. P. Breteau.
71 *Emetin in Amœba Dysentery or Liver Abscess. Dopter.

69. **Decompressive Trephining on Sound Side for Cerebral Hemorrhage.**—Marie reiterates that the apoplectic stroke is comparatively transient as it is due to sudden irruption of blood into the brain. Coma, on the other hand, is the result of pressure on the brain by the blood, and this is permanent unless relief from the pressure is obtained in some way. Profound and persisting coma indicates that both hemispheres of the brain are suffering from compression. If only one hemisphere is affected, the unconsciousness is not so profound. In addition to the compression of the brain by the extravasated

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blood, there may be more or less edema from the irritation. For these and other reasons a decompressive operation is indicated, but Marie insists that the trephining should be done on the sound side in certain cases, as this reduces to the minimum the dangers from the operation for the focus of the hemorrhage and the danger of irruption of the blood into the meninges. He warns against any operation of the kind on the elderly on account of possible bronchopulmonary complications. Pronounced albuminuria or profound coma from the start also contra-indicates mere trephining. It is required, however, with apoplexy and conjugated deviation of the head and eyes, when the patient is able to reply with some degree of coherence to questions and no improvement is apparent in twenty-four or forty-eight hours and the breathing suggests the Cheyne-Stokes type and the temperature has gone up a little. All this shows that the pressure on the brain is increasing and that coma is imminent. Prompt trephining of the sound side is the logical treatment, and the results were most excellent in his four cases in which treatment was applied on this principle.

71. **Emetin in Treatment of Ameba Disease.**—Dopter's experience in fifty-one cases has confirmed the invariable destructive action of emetin on the ameba at large, but it seems powerless to affect the encysted specimens. Hence it does not protect against relapses, but the emetin promptly cures the relapse.

Journal de Chirurgie, Paris

November, XI, No. 5, pp. 533-692

72 Incision in the Duodenum with Stone in Common Bile Duct. (De la duodénotomie dans la lithiase du cholédoque.) A. Gosset.
73 Technic for Laminectomy. P. Lecène.
74 Characteristics of Wounds from the Modern Small Bullets. (Les caractéristiques des blessures de guerre par projectiles de petit calibre d'après les enseignements des guerres récentes.) H. Billet.

Journal de Médecine de Bordeaux

November 9, LXXXIV, No. 45, pp. 719-730

75 Radiotherapy in Gynecology. Spéder.
76 Abbott's Method of Treating Curvature of the Spine. J. Lalesque, Jr.

November 16, No. 46, pp. 731-748

77 Occupational Affections and Proposed Legislation. (La loi en discussion sur les maladies professionelles.) H. Verger and P. Lande.

November 23, No. 47, pp. 749-762

78 Operate for Adenoids at Any Age if They Cause Serious Disturbance; If Not, Wait Till the Age of 3. Brindel and J. R. Cells.

Revue Médicale de la Suisse Romande, Geneva

November, XXXIII, No. 11, pp. 793-872

79 *Examination and Testing the Functioning of the Internal Ear. (Exploration clinique du labyrinthe.) H. Joliat. Commenced in No. 10.
80 Pleural Effusion Complicating Therapeutic Pneumothorax. Tecon and Sillig.
81 Renal Tuberculosis Assuming the Form of Lithiasis. C. Perrier.

79. **Exploration of the Internal Ear.**—Joliat reviews in detail the methods of examination at our disposal for testing the functions of the labyrinth, especially those connected with maintaining one's balance, the static function. Disturbances in hearing will locate the trouble if direct visual inspection of the ear reveals nothing. Derangement of the transmitting apparatus raises the lower threshold of the hearing, the bone perception is prolonged and longer than air perception. Derangement of the perceiving apparatus lowers the upper threshold of hearing and causes gaps in the field of hearing, bone perception is shortened and air perception, although shortened, is yet longer than bone perception. If there are subjective sounds in the ear they are more musical and continuous than with deranged transmission. Tests inducing nystagmus will show the condition of the static function and help to distinguish between suppuration in the labyrinth and in the cerebellum. With the latter, spontaneous nystagmus is not influenced by cold water in either ear or turning around or hot water tests. There is no connection between the nystagmus and the falling with eyes shut or deviating in walking. On the other hand, the patient has headache, especially in the morning, the neck is stiff, there is a tendency to choked disk, somnolency, severe dizziness and vomiting and the general condition is impaired much more than with any labyrinth disease. The differentiation is rendered complete by an inability to associate simple movements, especially those in opposite directions, and by the tendency for the limbs to retain any position in which they may be placed. As an abscess in the cerebellum is generally secondary to labyrinthitis, examination along these lines will reveal the extent of the lesion. Spontaneous nystagmus from a cerebellar affection does not change its direction or subside when cold water is injected into the ear on the side toward which the nystagmus is directed. When a change is observed the nystagmus is of labyrinth origin. The technics for the various tests are described in detail.

Revue Mens. de Gynécologie, d'Obstétrique et de Pédiatrie, Paris

October, VIII, No. 10, pp. 577-640

82 *Twin Pregnancy. (Le pronostic de la grossesse et de l'accouchement lorsque l'utérus contient 2 jumeaux.) L. Demelin.
83 *Serotherapy in Pregnancy Toxic Conditions. P. Gaifami.
84 Extra-Uterine Pregnancy. P. C. Dagneau.

82. **Twin Pregnancy.**—Demelin relates that in 100 twin pregnancies seventy of the 200 children died; all but eleven of those who died were born long before term. The pregnancy was carried to term in only thirty-six cases; abortion occurred in fifteen. The uterus being abnormally distended by the two fetuses is more sensitive to irritation from within and without and consequently it is wisest for the woman to keep in bed when a twin pregnancy is diagnosed beyond question. Twins from a single ovum are less liable to thrive than when each has its placenta, other things being equal. Breech presentation is unusually frequent among twins while it is more serious for them on account of the common debility of a twin fetus while the uterus is more inclined to inertia. The first twin usually suffers most from the birth traumatism as it is cramped in its movements. The two heads locking together in the small pelvis is an extremely rare occurrence. The delivery generally proceeds unusually easy for the woman, but there is a greater tendency to albuminuria and other pregnancy toxic conditions; up to 13 per cent. in his cases. Puerperal complications seem to assume a severe type after twin births, the greater inertia of the uterus and the extra large area of placenta surface and the extra toxic condition in general reduce the resisting power. The great danger is hemorrhage; it is liable to be excessive and the obstetrician's efforts should be directed with special care to prevent this. The main point is to refrain from hastening the delivery of the second twin; the uterus needs time to recuperate from the effort of expelling the first twin. If this resting period is interrupted too soon, the muscular wall will be unable to retract and the blood will flow indefinitely. The spontaneous reappearance of labor pains must be patiently awaited, even though one or two hours or several hours up to several days may elapse. The position of the remaining twin must be supervised and kept favorable for presentation, possibly having a bandage worn until labor starts up anew.

83. **Serotherapy in Toxic Conditions of Pregnancy.**—Gaifami has applied serotherapy in twenty cases of pregnancy toxicosis and states that dermatoses and pruritus in pregnant women were cured in every instance by the serotherapy. The effect was usually favorable also in the uncontrollable vomiting of pregnancy. The results were actually brilliant in his two cases of pregnancy pernicious anemia. The benefit was less constant and striking in albuminuria. The serum from another pregnant woman seems the most effectual form of serotherapy, and all the experiences to date have confirmed the harmlessness of the method.

Semaine Médicale, Paris

November 26, XXXIII, No. 48, pp. 565-576

85 *Errors in Diagnosis of Gall-Stone Disease. F. Lejars.

85. **Errors in the Diagnosis of Gall-Stone Disease.**—Lejars refers merely to old chronic disorders in which either cholelithiasis was erroneously assumed or true cholelithiasis was mistaken for something else; he reports a number

of instructive cases of each. In one, a man of 53 had long had symptoms typical of gall-stones but operation revealed a small cancer on the outside of the lesser curvature of the stomach. In other cases old perigastritis with adhesions may cause symptoms typical of gall-stone disease, including an apparent tumor in the gall-bladder region. This perigastritis and the resulting masses simulating a tumor are generally on the left side, and the mass is not so sharply defined, and the edges are more irregular than with a swollen gall-bladder. Cirrhosis of the liver may develop with colic pains, jaundice and tenderness in the gall-bladder region. In one such case recently in a woman of 39 the operation revealed the gall-bladder normal, the liver yellowish, knobby and soft. He found the gall-bladder and ducts also normal in another case in which the laparotomy for recurring "colics" disclosed merely the acute congestion in the liver to which Ortner has recently called attention. (See THE JOURNAL, Nov. 1, 1913, p. 1670.)

In another case of true cholelithiasis he found the bile apparatus entirely free from stones at the operation; the very last one of the concrements had probably just been expelled. In three recent cases the typical gall-bladder colic was caused by simple cholecystitis and there were no concrements; complete recovery followed cholecystectomy. An echinococcus cyst outside the gall-bladder or a gumma in this locality may also simulate gall-stone trouble; he has operated in two cases of the former. In another case a large tumor in the gall-bladder region was not accompanied by gall-stone symptoms proportional to the size of the tumor, which reached to the umbilicus. The Wassermann reaction was negative, but the trouble proved to be a gummatous tumor on the front of the liver. The Wassermann test applied later was positive. If the possibility of something besides gall-stone disease occurs to one, some little anomaly in shape or size will suggest that the case is not one of ordinary cholelithiasis. Persevering examination of the stool revealing stones or gravel may clear up the diagnosis in dubious cases. In any event, the safest rule is to operate.

Archiv für Kinderheilkunde, Stuttgart

LXII (?), Nos. 1-2, pp. 1-158. Last indexed April 5, 1913, p. 1113

86 Relations between Favus in Man and Animals. (Zur Kenntnis der Beziehung zwischen Achorion Schoenleini und Achorion Quinckeanum.) M. K. Wolf.
87 Etiology of Orthostatic Albuminuria with Special Regard to Tuberculosis. F. Wendenburg.
88 Acute Staphylococcus Spondylitis. E. Reye.
89 Pseudomembranous Colitis in Children. E. Steinschneider.
90 Ascarides in Children. (Häufigkeit, Diagnose und neuere Behandlung der Spülwurmkrankheit bei Kindern.) A. Lechler and H. Plew.
91 Congenital Dropsy. (Angeborene Wassersucht.) O. Fleischmann and S. Wolff.
92 Anomalous Scarlet Fever Exanthem. J. A. Schabad.

Beiträge zur klinischen Chirurgie, Tübingen

October, LXXXVII, No. 1, pp. 1-316

93 *Ultimate Results of Treatment of Tuberculous Spondylitis and Joint Tuberculosis; 1,275 Cases. C. Garrè.
94 *Treatment of Hip-Joint Tuberculosis and Results; 261 Cases. A. Nussbaum.
95 *Treatment of Knee Tuberculosis and Results; 454 Cases. H. Els.
96 Treatment of Ankle Tuberculosis and Results; 222 Cases. Syring.
97 *Treatment of Shoulder, Elbow and Wrist Tuberculosis and Results; 145 Cases. S. Leonhard.
98 *Course and Outcome of Tuberculous Spondylitis; 202 Cases. O. Seemann.
99 *Roentgen Therapy of Surgical Tuberculosis; 41 Cases. H. Fründ.
100 Experimental Direct Medication of the Lung. (Einspritzungen ins Lungenparenchym.) T. Hirano.
101 Fascia Flaps to Close Defects in Thorax Wall and Reenforce Sutures of Lung. T. Hirano.
102 Experimental Research on the Healing of a Wound in a Joint. (Regeneration der Synovialmembran und der Gelenkkapsel.) C. Segale.

93-98. **Surgical Tuberculosis.**—The methods of treatment applied in Garrè's service at Bonn are described in detail for each class of cases, with the ultimate outcome in all the patients that could be traced to date. He warns against the danger of focusing the attention too exclusively on the local trouble and forgetting the importance of general treatment. This surpasses in importance everything else, regardless of whether operative or conservative measures are applied. In 233 cases of tuberculous spondylitis in the last seventeen years the mortality among the 182 patients that have been traced to date has been 50 per cent. for the men and boys and 57 per cent. for women and girls; 34 and 38 per cent. are cured and 9 and 12 per cent. still have something left of their old trouble, among those under observation for at least five years. Of those traced for twelve years whose spondylitis began under the age of 10, 40 per cent. have died and 10 per cent. are uncured, 50 per cent. have recovered. The course of spondylitis seems to be more malignant in boys; 50 per cent. have died of the males developing vertebral caries between 10 and 20 and only 25 per cent. seem to be cured at present. None has survived of the males acquiring the disease between 15 and 30; injury at work explains this speedy mortality. The mortality is highest among women during child-bearing age. The duration of the persisting disease ranged from three months to twenty-eight years, the average about four years.

Trauma, especially in boys, is an important factor and the cases with a history of typhoid have a specially unfavorable prognosis. When the tuberculous process is in the upper cervical vertebrae the outcome is speedily fatal in 50 per cent. of the cases, while the chances are much better when it is located at the junction of the dorsal and lumbar vertebrae. An abscess renders the outlook graver; a fistula is still more serious. Operations liable to entail a fistula are, therefore, contra-indicated. Nervous complications in the elderly generally prove fatal early and render the outlook graver in all cases, but in children the paraplegia is amenable to orthopedic measures. Abscesses and paralysis from spondylitis are more common in males. Tuberculous complications elsewhere are generally responsible for the fatal outcome; in less than half the cases was the spinal disease the direct or indirect cause of death.

99. **Roentgen Therapy of Surgical Tuberculosis.**—Fründ relates that five patients were cured and three showed no improvement in a group of eight given mild Roentgen-ray exposures for a bone or joint tuberculous lesion. On the other hand, only two were benefited out of ten given intensive Roentgen therapy. This treatment was applied in seventy-one cases in all, and certain phenomena observed suggest that the tubercle bacilli in some towns are more resistant than in others. This seems to be the only explanation of the fact that the same treatment failed so frequently at Bonn, while it gave almost constantly good results at other places with the same technic and roentgenologist.

Correspondenz-Blatt für Schweizer Aerzte, Basel

XLIII, Nos. 45-47, pp. 1509-1568. H. Sahli Festnummern

103 Retention of Salt in Kidney and Heart Disease and in Pneumonia. (Ueber die Frage der Kochsalzretention bei Nephritis, Herzkranken und Pneumonie und über die Enstehung der Oedeme.) I. Hoff
104 Pathology of Herpes Zoster. W. Kürsteiner.
105 Influence of Quinin and Salicylates on the Guinea-Pig's Organ of Hearing. W. Lindt.
106 Tests of Cerebellum Functioning. (Zur Adiadochokinese und zu den Funktionen des Kleinhirns.) F. Lotmar.
107 Cancer of the Thyroid. (Karzinom der Schilddrüse mit exzessiver spezifischer Drüsenfunktion.) Meyer-Hurlimann and A. Oswald.
108 Residual Nitrogen in the Blood in Kidney Disease. (Wert der Bestimmung des Reststickstoffs im Blute bei Nierenkranken.) L. Michaud.
109 Lead-Poisoning. (Zur Kenntnis der Bleivergiftung mit bes. Berücksichtigung des Wertes der Symptome.) O. Nägeli.
110 Blood-Findings in Small-Pox and Vaccinia. M. Schatzmann.
111 Diagnosis of Stomach Disease. (Zur Magendiagnostik an der Hand von 109 Fällen untersucht mit dem modifizierten Gluzinski-Verfahren.) F. Rusca.
112 *Case of Acute Atony of the Stomach. V. Schlaepfer.
113 Determination of Albumin by the Refractometer. G. Schorer.
114 *Pernicious Anemia in Pregnancy and the Puerperium. A. Schüpbach.
115 Family Predisposition or Immunity to Diphtheria. W. Spirig.

112. **Acute Atony of the Stomach.**—The acute atony and dilatation of the stomach occurred just after the patient had taken a large dose of castor oil. Several liters of fluid were found in the stomach but the patient had not drunk any unusual amount of fluid. There was probably excessive secretion of fluid into the stomach, a nervous gastrosuccorrhea superposed on the atony. The Roentgen test findings in two

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convalescents and a healthy man all drinking from 1 to 2½ liters of beer showed that mere overloading does not entail dilatation of the stomach; it may stretch and sag but there are no atony and dilatation. For this, some degree of paralysis of the stomach musculature is necessary.

114. **Pernicious Anemia in Pregnancy and the Puerperium.**—Schüpbach declares that the prognosis of pernicious anemia developing during pregnancy or the puerperium differs from that of pernicious anemia in general, as recovery is possible under arsenic and evacuation of the uterus, spontaneous or induced. Nägeli has reported complete recovery for eleven years to date in two cases and for five years in another case. Two of his patients bore other children later with no return of the anemia. The results of recent research suggest that the anemia is due to deficient production of antihemolysins; this assumption is confirmed by the fact that the fetus never seems to suffer from the anemia. The mortality is high among the children simply because anemia brings premature delivery. Schüpbach reports two cases, one in a woman of 25 pregnant for the fourth time. During her last pregnancy she had had transient nephritis and the symptoms of the pernicious anemia were ascribed to recurring nephritis at first and thus time was wasted before premature delivery was induced, then too late to save. The fetus was well developed; the blood-supply was good both in quality and quantity. Schüpbach knows of no other published report in regard to the findings in the fetus of a mother dying of pernicious anemia. Her sister had died a few years before from pernicious anemia. The second patient also succumbed not long after delivery induced at the eighth month. She had passed through eight pregnancies in eight years, with nine children, and was too weak to rally.

Deutsche medizinische Wochenschrift, Berlin

November 20, XXXIX, No. 47, pp. 2281-2328

116 *Treatment of Severe Acute Anemia. (Behandlung akut bedrohlicher Erkrankungen. I.) Grober.
117 *Meningitis Following Tonsillitis. E. Siemerling.
118 Radium Therapy of Cancer. (Gegenwärtiger Stand der Radiumtherapie bösartiger Geschwülste.) E. Schlesinger.
119 Experimental Mesothorium Injury of Testicle. (Ueber Mesothoriumschädigung des Hodens.) M. Simmonds.
120 Paratyphoid Bacilli Causal Agent of Distemper in Dogs. (Ueber den Erreger der Hundestaupe.) O. R. v. Wunschelm.
121 *Tuberculosis of the Bladder with Intact Kidneys. (Ungewöhnlicher Fall von Tuberkulose des Harnapparats.) J. Israel.
122 *Clamping the Parametrium to Arrest Obstetric Hemorrhage. (Zur Blutstillung in der Nachgeburtszeit und nach Ausstossung der Plazenta.) R. Zimmermann.
123 Cure of Exophthalmic Goiter under Feeding with Milk from Thyroidectomized Sister. Pychlau.
124 Rachitis of the Nose and Its Relation to Asthma. Walb.
125 Permanent Depilation under Roentgen Treatment. D. Chilaiditi.

116. **Severe Acute Anemia.**—Grober compares acute anemia to albuminuria—both are merely symptoms, and he warns that the exsanguinated appearance may be misleading. Only examination of the blood for the proportion of reds and pigment will show whether the trouble is actually anemia or merely the driving-in of the blood from the periphery. With true anemia the patient is restless, possibly delirious, from the lack of oxygen in the blood, and he gasps for air; the pulse is rapid, small and not quite regular, and systolic anemic murmurs are audible at the apex and pulmonary valve. To relieve the sensation of suffocation is the first task, and this can be done by supplying oxygen or by deadening with narcotics the respiration centers. Nature attends to the latter by the narcotic action of the carbon dioxid in the blood; any attempt to reenforce this with drugs should be very cautiously done as serious injury may result if the functioning of these centers is permanently reduced. In acute anemia it is better to give the oxygen diluted with one-half or one-third air. Relief is usually apparent at once, although when the hemoglobin is already saturated with oxygen it cannot take up any more. It is possible, however, that the recently formed red corpuscles in the blood-producing organs may be enticed out into the blood stream by their affinity for the oxygen. Whatever the theory may be, the unmistakable benefit in certain cases compels us to use oxygen in the dyspneic phase of acute anemia even although it fails to relieve in a certain proportion of cases.

The patient gasping for breath often rises up in bed, but this must be prevented on account of increasing the danger from the anemia for the brain. He must be kept horizontal or the head lower than the plane of the body. This relieves the symptoms from the anemia in the brain; consciousness returns and convulsions cease, but the sensation of suffocation returns and brings the patient up again, his rapid breathing showing how he is starving for air. This vicious circle keeps up, often to end in stupor or death unless the patient is quieted with morphin or other narcotic. The dose must be small on account of the weakened condition. This relieves the suffocation, tranquilizes and gains time for the body to make new blood. The artificial means at our disposal for improving the condition in regard to the blood are few and unreliable and fraught with some danger. The acute anemia itself is the most powerful of all stimulants for new production of blood provided the blood-producing organs are healthy. This is usually the case in anemia from hemorrhage but not with hemolytic and pernicious anemia.

For the same reason, transfusion of defibrinated blood seldom gives good results in hemolytic and pernicious anemia while in acute anemia from other causes it is borne well and has proved very useful in Grober's experience. Weber's method of repeated transfusion of only 5 or 10 c.c. blood seems to supply an extra stimulus for production of new blood. Autotransfusion may also prove useful, that is, bandaging the limbs from the periphery upward to drive the blood back into the trunk where it is more needed than in the extremities. He witnessed great benefit from this in one case of severe intestinal hemorrhage. Saline infusion answers about the same purpose, filling the vessels with fluid. If physiologic salt solution is not at hand, boiled water can be used, but not distilled water. Drop infusion by the rectum can be easily arranged while the patient is still under the influence of the sedative. The heart action must be kept good; this may require hot brandy, rum, coffee or flat champagne, or subcutaneous injections of camphor and caffein every hour or half hour; epinephrin in small doses. The stomach cannot be depended on and consequently it is useless to give drugs by the mouth; digitalis may fail even by intravenous injection. The patient must be kept warm in bed; a prolonged warm bath is often soothing and refreshing. Among the local measures to arrest bleeding from a large surface are tamponing with ferric chlorid, gelatin and epinephrin, subcutaneous injection of 40 or 50 c.c. of a 10 per cent. gelatin solution, or injection of 5, 10 or 20 c.c. of animal or human serum. Von den Velden advocates intravenous injection of 3 or 5 c.c. of a 10 per cent. solution of salt, eventually repeated a few times at one or two hour intervals. Fresh animal tissue contains large amounts of thrombokinase, so it might prove useful in gastric hemorrhage, given in the form of an infusion of calf's liver. An old empiric treatment is to lay a piece of fresh meat on a bleeding surface.

117. **Meningitis Following Tonsillitis.**—Siemerling's patient was a boy of 15 and the meningitis developed in connection with a febrile sore throat—a retronasal angina seems to be a regular accompaniment of epidemic meningitis. There were two days of headache in this case with a little dizziness and tremor of the hands and then the lad dropped unconscious, delirium alternating with stupor, with other symptoms of severe meningitis. Striking benefit followed lumbar puncture which showed the fluid under high pressure. The clinical picture was extremely severe but terminated in recovery after nearly two months. The fluid contained 300 lymphocytes in 2 c.c. The fifth week a month's course of mercurial inunctions was commenced, using up 63 gm. grey ointment. Quincke has called attention to the benefit from mercurial inunctions in serous meningitis.

121. **Tuberculosis of the Bladder with Intact Kidneys.**—Israel's patient was a girl of 22 and the course of the case showed that a tuberculous process in one fallopian tube had spread to involve the bladder. After removal of the diseased tube the bladder process healed.

122. **Obstetric Hemostasis.**—Zimmerman reports invariable success in arresting hemorrhage after delivery by applying clamps to the parametrium. This stopped all hemorrhage at once even in his five cases of placenta praevia and also with hemorrhage from atony of the uterus. The mouth of the uterus is drawn down to the vulva and the parametrium stretched by pulling to one side and then to the other. Muzeux forceps are introduced along the side and pushed upward close to the side of the vagina and uterus, pushing the vaginal mucosa before the open blades. They are then clamped together, the teeth gripping in the uterus musculature. This is done on both sides and the clamps are left in place for twenty-four hours. When they are to be removed the blades are first unlocked for half an hour to see if there is any hemorrhage before removing them altogether. He says that with care to avoid the bladder, this technic is free from danger while it is one of the most effectual means for immediate arrest of serious hemorrhage in threatening cases, especially when the obstetrician has no one to help him. As the procedure naturally is more or less painful, it will be used only after the failure of other measures.

Deutsche Zeitschrift für Chirurgie, Leipsic

October, CXXV, Nos. 3-4, pp. 211-412

126 General Anesthesia with Pantopon and Scopolamin. E. Burgi.
127 Oxygen-Ephedrin Spray in Treatment of Postoperative and Other Catarrhal Complications. F. Demmer.
128 *Cancer of the Testicle. (Zur Kenntnis der malignen Hodentumoren.) Y. Sakaguchi.
129 *Shriveling of Lung Induced by Ligation of Branches of Pulmonary Artery and Its Influence on Pulmonary Tuberculosis. (Künstliche Erzeugung von Lungenschrumpfung durch Unterbindung der Pulmonalarterienäste.) K. Kawamura.
130 Technic for Effectual Flushing of Entire Cerebrospinal Subdural Space. F. Orsos.
131 Treatment of Dislocation of the Humerus with Fracture of Its Head. F. Cahen.
132 Warning That Fascia Grafts Are Liable to Shrink. (Ueber die Schrumpfung der frei transplantierten Fascie und Bedeutung derselben bei plastischen Operationen und bei Umschnürung des Darmes. Experimentelle Untersuchungen.) K. Kolb.

128. **Cancer of the Testicle.**—Sakaguchi describes in detail twenty-three specimens of cancer of the testicle encountered at the Göttingen pathology institute. He reports in addition nine cases in Japan. Two of the patients were children of 2½ and 5 and the malignant disease ran a rapid course. The large-celled tumors of epithelial origin formed twenty-three of the total thirty-two, and the patients were generally between 40 and 60; there was a history of trauma in four cases, but the testicles were in their normal location in all but one instance.

129. **Ligation of Pulmonary Artery in Treatment of Tuberculosis.**—Kawamura reports the end-results after ligation of branches of the pulmonary artery in dogs and rabbits, some healthy, some previously infected with tuberculosis. In the lobe of the lung thus shut off from the circulation there was great proliferation of the connective tissue and the lobe shriveled and shrank. Tuberculous processes in the lobe involved became encapsulated with connective tissue, and there was calcification and scarcely any tubercle bacilli were to be discovered. There were no signs of a hemorrhagic infarct. The method seems applicable for clinical cases provided the tuberculosis is restricted to one lobe and the rest of the lung is sound.

Jahrbuch für Kinderheilkunde, Berlin

November, LXXVIII, No. 5, pp. 497-652

133 Scarlet Fever and Angina Due to Alimentary Anaphylaxis. (Sensibilisationserscheinungen und Ueberempfindlichkeitsreaktionen.) F. v. Szontagh.
134 A Study of Metabolism, Especially of Minerals, in Infancy. H. Giffhorn.
135 *Serum Sickness; 683 Cases. L. Axenow.

135. **Serum Sickness.**—The 683 cases reported were observed at the children's hospital in St. Petersburg and all followed the treatment of scarlet fever with Moser's serum. In the course of seven and one-half years this form of serotherapy was applied in 1,200 cases, and serum sickness followed in 57 per cent. of them, not counting those who died too early for serum sickness to have appeared. It was much more frequent in children under 5 years of age than in older ones. There were twenty-one deaths (3 per cent.) due to serum sickness alone. There were thirty-seven others in which besides the serum sickness there were other complications of scarlet fever, making the mortality 8.5 per cent. The serum sickness increases the severity of the complications. Serum treatment for scarlet fever should, therefore, be used very cautiously and only in the severest cases. The symptoms are fever, enlargement of lymph-nodes, joint affections, edema, urticaria and albuminuria. The measures applied in prophylaxis were without result.

Medizinische Klinik, Berlin

November 23, IX, No. 47, pp. 1921-1964

136 Evolution and Present Status of Treatment of Wounds. G. Magnus.
137 Familial Adiposis Dolorosa. O. Klieneberger.
138 Collective Inquiry in Regard to Subcutaneous Tuberculin Reaction. A. Fraenkel and Others.
139 Diet at Spas. G. Linossier.
140 Hot-Air Jet. (Zur Anwendung der Heissluftdusche.) O. Schiftan.
141 Balsamics in Tuberculosis. Berliner.
142 Infection and Natural Immunity of Vitreous Body. R. Salus.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

November, XXXVIII, No. 5, pp. 593-624

143 Radium and Mesothorium in the Treatment of Cancer of Uterine Cervix. F. Schauta.
144 Ovarian and Parovarian Tumors. R. Ekler.
145 Alexander-Adams Operation. Mendes de Leon.
146 *Nitrous Oxid and Oxygen Anesthesia. (Klinisch-experimentelle Versuche mit Lachgas-Sauerstoffnarkose.) E. Zweifel.
147 *Eugenic Indications in Gynecology. M. Hirsch.

146. **Nitrous Oxid and Oxygen Anesthesia.**—Zweifel reviews the literature on nitrous oxid anesthesia and from experimental work and forty clinical cases reaches the conclusion that short operations can be performed painlessly with nitrous oxid, either alone or in combination with oxygen. With or without oxygen it is also adapted for the beginning of chloroform-ether anesthesia. The anesthesia may be deepened by giving a sedative the evening before, and again just before the operation. This combination permits the use of this form of anesthesia in a much wider range of cases. He declares that it is the least objectionable form of anesthesia for the patient. There is no feeling of suffocation and hardly ever any excitement or vomiting. It is the least dangerous to life of any anesthetic. If the anesthesia is not deep enough, chloroform or ether can be given at any time without injury to the patient.

147. **Eugenic Indications in Gynecology.**—Hirsch believes firmly that the physician, particularly the gynecologist, should take into consideration, not only the welfare of the patient but that of the race, and that reproduction should be prevented by permanent sterilization in diseases that are almost certain to leave bad effects on the children, such as epilepsy, chronic mental diseases, imbecility, chronic alcoholism and morphinism, degenerative forms of neurasthenia and hysteria; advanced stages of tuberculosis, severe forms of exophthalmic goiter and chorea, severe constitutional syphilis and pernicious anemia. In disease where inheritance is uncertain or recovery is possible, he advocates that means for temporary prevention of conception should be taught, declaring that the physician should be a leader in bringing public opinion and the law to an acceptance of such measures as are necessary to protect the race from disease, insanity, prostitution and criminality, for these latter are due to inherited physical or mental defects.

Wiener klinische Wochenschrift, Vienna

November 13, XXVI, No. 46, pp. 1881-1924

148 *Psychic Depression. H. Kahane.
149 *Resection of the Knee. (Exstirpation des Kniegelenkes.) H. Riedl.
150 Treatment of Syphilis. S. Grosz, R. Volk, W. Kerl and O. Sachs.
151 Invisible Primary Lesion in Syphilis. (Ueber okkulte Primäraffekte.) L. Spitzer.
152 *The Secondary Rays in Roentgen Therapy. (Zur Frage der Sekundär-strahlentherapie.) G. Schwarz.
153 History of Urologic Diagnosis. (Zur Entwicklung der klinischen Harndiagnostik.) E. Ebstein.

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148. Psychic Depression.—Kahane discusses various points in psychotherapy, emphasizing that mere persisting worry or anger is liable alone to bring on neuralgia or stomach or intestinal trouble—this seems reasonable when we reflect that intense hyperemia of the skin, that is, a deep blush, may follow a mere spoken word; a fright may induce the most violent contraction of the vessels, driving the blood away from the surface, while expectancy may cause the heart to beat faster and modify the respiration rate. These familiar facts render plausible the assumption that chronic emotional stress may by summation induce complex somatic consequences. The possibility that neuralgia and atony of the stomach or bowel may occur solely as the result of chronic emotional stress amply explains the cure in many such cases by psychotherapy according to Dubois' system.

Kahane deplores the miscredit brought on psychotherapy as a whole by the new school which drags the erotic so prominently into the foreground. He insists that the sexual instinct is nothing more than a subordinate feature of the general instinct for self preservation. Especially with women, the future support, food and shelter, are inextricably bound up in the sentiment of love. In man the erotic flame soon dies down and the comfort of the family table, regular habits, and the warm quiet home—all these are consciously or subconsciously blended in the love passion. Kahane remarks that the overemphasis placed on the erotic in art and literature renders everything that comes from scientific circles bearing on the erotic extremely interesting to the lay public and gives it wide appeal, but, in actual fact, it may safely be asserted that the sexual impulse has no greater sphere in the psyche than the sexual apparatus has in the physical body. Persons who commit suicide under erotic influences are generally those who have failed to make a place in the world; their unfortunate love affair is only the wind-up of a general failure. On the whole he advises physicians to refrain from discussing sexual matters as in nothing else does suggestion work so rapidly and with such serious consequences as here. Worry and disappointment are the essential causes of psychic depression, and psychologic treatment with patience and sympathy brings a rich harvest of success.

149. Resection of the Knee.—Riedl gives an illustrated description of extracapsular removal of the knee-joint as he has applied it to seven men and four women between 19 and 60. Fixation with horn pegs gave the best results; they healed in place without reaction. He generally used three, from 7.5 to 10 cm. long and 0.4 to 1 cm. thick.

152. The Secondary Rays in Roentgen Therapy.—Schwarz exposed peas to the Roentgen rays, five peas in each of four watch glasses. Two of the glasses were filled with water, the other two with water containing a little of a silver salt solution, and they were all exposed to the Roentgen rays for thirty minutes. The peas were then planted and the growth of the seedlings showed that the secondary rays generated by the silver solution in the water had enhanced the action of the Roentgen rays so that growth was much inhibited.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXXIV, Nos. 2-3, pp. 341-1052. Last indexed Nov. 8, p. 1758

154 *The Wassermann Reaction in the Retroplacental Blood and in Blood from the Umbilical Vein. R. Krukenberg.
155 Bacteriologic Research in Febrile Abortions. P. Werner.
156 *Physiology and Technic for Breast-Feeding of the Newly Born. (Natürliche Ernährung des Neugeborenen.) R. T. Jaschke.
157 The Metabolism During Pregnancy: Experimental Research. (Studien über den Stoffhaushalt in der Gravidität nach experimentellen Untersuchungen des Verhaltens trächtiger Tiere und ihrer Früchte bei eisenreicher und eisenarmer Ernährung.) M. Fetzer.
158 Pubic or Sacral Occipital Presentation: Three Cases. (Drei Fälle von hohem Gradstand.) W. Nacke.
159 *Sepsis and Pyemia. W. Nacke.
160 Experimental Glycosuria in Pregnant and Non-Pregnant Women. F. Jaeger.
161 Clinical and Histologic Aspects of Chorio-Epithelioma. F. Heimann.
162 Vaginal Cysts. (Sogenannte Scheidencysten.) H. Küster.
163 Sarcoma in Both Ovary and Intestine. W. Weibel.
164 *The Declining Birth-Rate. (Statistische Beiträge zum Geburtenrückgang in Deutschland.) R. Schaeffer.
165 *Infectious Meningitis Following Spinal Anesthesia. J. Senge.
166 *Contracted Pelvis at the Basel Maternity. (Behandlung der Geburt bei engem Becken in Basel.) F. Cuny.
167 *Fatalities Following Gynecologic Operations at Basel, 1901-1911. E. Loliger.
168 Lipoid Chemistry of the Blood in Pregnancy, Amenorrhea and Eclampsia. W. Lindemann.
169 The Position of the Diaphragm and Heart in Late Months of Pregnancy. (Herz- und Zwerchfellstand während der Schwangerschaft.) T. Heynemann.
170 Innervation of the Uterus and Vagina. J. J. Falk.
171 *Pregnancy in Art. (Schwangerschaft in der Kunst.) C. H. Stratz.
172 Mummified Fetus. (Foetus papyraceus.) C. H. Stratz.
173 *Influence of Flat Shape of Pelvis on Delivery in Normal Head Presentation. (Einfluss des platten Beckens auf die Geburt in normaler Schädellage.) P. Esch.
174 Defective Bone Growth in Mother and Child. (Osteogenesis imperfecta bei Mutter und Kind.) E. Zurhelle.

154. Blood from Umbilical Vein Can Be Used for Wassermann Test under Certain Restrictions.—Krukenberg tested by the Wassermann technic the retroplacental blood, blood from the umbilical vein and blood from the mother's arm in 121 normal and eighty-two pathologic maternity cases. He found that the retroplacental blood is liable to give a positive Wassermann reaction even when syphilis is entirely out of the question; hence it cannot be used as a test for syphilis. The umbilical-vein blood on the other hand gave a positive response only in case of inherited syphilis. A negative response, however, does not exclude syphilis acquired during birth, and does not positively exclude latent inherited syphilis. The blood from the umbilical vein will thus be found useful for diagnosis of inherited syphilis in connection, possibly, with the test applied to blood from a vein in the mother's arm.

156. Breast Feeding of the Newly Born.—Jaschke states that years of experience have demonstrated that new-born infants thrive better and continue to thrive better when they were suckled at first with colostrum rather than with perfect breast milk. He tabulates findings which show that the nitrogen balance kept positive in spite of the physiologic loss of weight after birth. This testified that the child was getting nourishment, and the very nourishment it needed, as more minerals are retained than when it is getting complete breast milk. He also reports excellent results from applying to the breasts a Bier vacuum suction glass as if for stasis hyperemia treatment. This hastens and promotes secretion in the mammary glands so that very few women are incapable of nursing their infants. Where this is the case, he tries to secure enough breast milk elsewhere to supply the lack. An unsuspected deficiency in the amount of milk secreted explains many cases of malnutrition in young infants. At the same time, he emphasizes, overfeeding during the first two or three weeks of life is far more harmful for the infant than a slight degree of undernourishment.

159. Sepsis and Pyemia.—Nacke says that he has never had a case of actual puerperal sepsis terminate in recovery; the prognosis with puerperal pyemia is more favorable. If the patient is otherwise healthy there is hope of keeping her strength up with careful protein diet, wine and other analeptics, until her body is able to rouse and triumph over the infection. Sepsis is more liable to follow forceps, version or a cutting obstetric operation; the fever starts the second or third day and the patient feels much depressed. The fever does not develop with pyemia as a rule until the fifth to seventh day, and between the chills the patient feels comparatively well and eats with appetite. The pulse with sepsis is rapid, galloping; there are signs of peritonitis and the patient feels apathetic and persistently very ill. With pyemia the chills pile up but there are no signs of peritonitis and between the chills the patient brightens up. The prognosis of pyemia grows better as the time passes; he had a patient recover after eighty-four chills in the course of thirteen weeks. Another died the forty-second day after fifty-four chills.

164. The Declining Birth-Rate.—Schaeffer's statistical study is based on 7,271 gynecologic cases in the last fifteen years, and it brings out the fact that the decline in the birth-rate affects only the large families. Not the *Kinder-bekommen*, he says, but only the *Viel-Kinder-bekommen* has fallen off. His statistics also contradict the assumption that the number of abortions has increased in the last decade. The declining

birth-rate is shown to be due to intentional prevention of conception and mainly in families already blessed with children. The only means to arrest the declining birth-rate therefore is to render it easier and less expensive for families to bring up children. As the state is vitally interested in having the population increase, the government should take measures to promote this.

165. **Meningitis Following Spinal Anesthesia.**—Senge reports from Kehrer's service at Dresden the case of a woman of 58 who developed acute meningitis and hemorrhagic encephalitis seven hours after an operation for old prolapse of the uterus, done under spinal anesthesia. She died the thirty-seventh hour and a peculiar spore-forming bacillus was cultivated from the cerebrospinal fluid, viable after lying in boiling water for fifteen or eighteen hours and in a 5 per cent. phenol solution for seventy-five days and in 1 per thousand mercuric chlorid solution for over twenty-seven. He has compiled seven cases from the literature of infectious meningitis following spinal anesthesia, with two deaths, and states that the actual number of cases is probably much larger.

166. **Contracted Pelvis.**—Cuny states that the mortality in von Herff's service was 0.4 per cent. among the 1,368 cases since 1902; omitting the five cases of fatal rupture of the uterus, the mortality was only 0.28 per cent. The principle followed is to ensure a spontaneous, i. e., non-operative delivery, a spontaneous premature delivery, which was accomplished in 88.7 per cent. of all the cases as Cuny describes in detail.

167. **Fatalities after Gynecologic Operations.**—Cancer was responsible for over 42 per cent. of the 163 fatalities in von Herff's gynecologic service at Basel and heart failure in 17.2 per cent. Among the lessons taught by the material presented is the necessity for an earlier diagnosis of extra-uterine pregnancy; the necessity for scrupulous care of the mouth on the part of the operators and nurses; avoidance of speaking during an operation; recognition of the danger of infection from the air and of the importance of means to ward off thrombosis—exercise of the breathing muscles and limbs while still in bed—and copious ingestion of lemonade.

171. **Pregnancy in Art.**—Stratz gives a number of illustrations of various paintings and other works of art depicting pregnant women. The earliest example is a prehistoric outline drawing on a reindeer horn, dating from the stone age, and depicting true to nature a woman in advanced pregnancy. In Japanese art, pregnancy is frequently portrayed, but in classic art Stratz insists that the naked pregnant woman was portrayed only by accident, not intentionally. The gynecologist, however, recognizes in some of the famous paintings of Rembrandt, Titian and Giorgione that their models must have been in the third to seventh month of a pregnancy.

173. **Influence of Flat Shape of the Pelvis on Delivery with Normal Presentation.**—Esch has compiled statistics from several maternities in regard to 3,647 cases of delivery with flat pelvis and normal presentation, and has drawn a curve which instructively shows the chances for safe delivery with conjugate diameter of from 7 to 9.8 cm. Between 9.6 and 10 cm., 94.8 per cent. of the children of primiparae were delivered spontaneously and lived and 97 per cent. of the pluriparae. With a diameter of 8.6 to 9.5 cm. the figures are respectively 91.8 and 90.4 per cent.; with diameter of 7.6 to 8.5, 75.6 and 74 per cent.; with diameter of 6.5 to 7.5 cm., 14.9 per cent.

Zeitschrift für Kinderheilkunde, Berlin

IX, No. 2, pp. 87-166. Last indexed Dec. 6, p. 2112

175 *Effect of the Sun's Rays on the Leukocyte Count. (Die Einfluss der Sonnenstrahlen auf die leukocytäre Blutzusammensetzung.) E. Aschenheim.
176 Chronic Stenosis of the Duodenum in Children from Pressure by the Root of the Mesentery. (Chronischer arterio-mesenterialen Verschluss des Duodenums in Kindesalter.) E. S. Frank.
177 Emotional Psychoneuroses in Children. T. Heller.
178 Epileptiform Pseudobulbar Paralysis Ending in Recovery; Two Cases. J. Zappert.
179 Advantages of the Right Lateral Position in the Radiologic Examination of the Infant's Stomach. E. Rach.
180 A Serologic Study of Leishman's Anemia in Children. G. Dieristina and G. Caroma.
181 Spasmophilia in Japan. K. Iwamura.

175. **Effect of Sun's Rays on the Leukocyte Count.**—Aschenheim subjected thirty-one patients to a blood count before and after an hour's exposure of the body to the direct action of sunlight. In 80 per cent. of the cases there was a general leukocytosis in the peripheral blood with a relative increase in lymphocytes and decrease in polymorphonuclears. Lymphocytosis is regarded by many authors as a defense reaction against tuberculosis, and Aschenheim suggests that this may account for the favorable effect of sunlight on tuberculosis.

Zeitschrift für klinische Medizin, Berlin

LXXVIII, Nos. 5-6, pp. 371-542. Last indexed Dec. 13, p. 2201

182 Primary Interstitial Tuberculosis Causing Contracted Kidney. (Tuberkulöse Schrumpfniere.) S. Schönberg.
183 *Urobilin in the Stools. H. Eppinger and D. Charnas.
184 *Auto-Intoxication from the Intestine. I. (Zur Frage der vom Darm ausgehenden Intoxikationen.) H. Eppinger and J. Gutmann.
185 *Form of Glycosuria in Pregnancy Not Connected with Diabetes. J. Novak, O. Porges and R. Strisower.
186 Diagnosed Case of Primary Adrenal Melanoma with Metastases. B. Molnar.
187 *Alimentary Levulose Blood Test of Functioning of the Liver. (Die alimentäre Lävulose-Hyperglykämie.) H. Schirokauer.
188 Influence of Concentrated Salt Solutions on the Red Blood-Corpuscles. (Einfluss konzentrierter Salzlösungen auf die roten Blutkörperchen.) E. Herzfeld.
189 Elimination of Amino Nitrogen in Diabetes. (Zur Frage der Aminostickstoffausscheidung beim Diabetes mellitus.) W. Löffler.
190 *Pregnancy Glycosuria a Form of Renal Diabetes. Mann.
191 Apparatus for Determining the Carbon Dioxid Tension of the Blood. (Studien über die Kohlensäurespannung des venösen Blutes mittels des neuen tragbaren Gasinterferometers.) R. Heim.
192 Borderland between Complete Heart-Block and Puerperal Arhythmia; One Case. (Perpetuierliches Vorhofflimmern bei permanenter Kammerautomatie.) J. Arndt.

183. **Urobilin in the Stools.**—The research reported suggests that the determination of the urobilin in the stool may have diagnostic import. In thirty-four patients whose metabolic findings are tabulated, the proportion of urobilin in the stools—the average in the daily output taken from several examinations—ranged from 4 gm., in a case of hemolytic jaundice, to 0.012 gm. in a case of cancer anemia. The average in health was 0.13 gm. and this figure was remarkably constant in all the normal persons examined. The limits of the alimentary appearance of urobilin in the urine and stool must be determined first.

184. **Intestinal Auto-Intoxication.**—Eppinger and Guttmann have become convinced from the results of their study of the subject, that substances may be sent out from the intestines to act in the capacity of hormones. If this assumption is confirmed, then the intestines must play a rôle in the body similar to that of the glands with an internal secretion. Histamin, putrescin, cadaverin and tyramin may have a hormone function. They were able to isolate from stool another base, beta-imidazolylethylamin, extraordinarily toxic. If one or two drops of a 1 per thousand solution of this are dropped on a superficial needle-scratch, typical urticaria develops at the spot in less than five minutes. On the basis of this and other experiences related, urticaria patients were put on a diet as free from protein as possible to avoid production of this base, and a marked improvement was noted in several cases. Mellany and Twost have recently announced the discovery of a bacterium which elaborates imidazolylethylamin out of histidin in an alkaline medium. The addition of salt or sugar checks this.

185. **Glycosuria in Pregnancy.**—The glycosuria in pregnancy is generally due to an extra sensitiveness on the part of the kidneys to the sugar in the blood. Nothing is found to indicate any disturbance in the metabolism of sugar, and neither the spontaneous nor the alimentary glycosuria can be accepted as necessarily a sign of pathologic conditions in the kidneys. These statements are based on the metabolic findings in sixteen women during and following a pregnancy. In contrast to these are tabulated the findings in three pregnant women with mild diabetes. The pregnancy had an unmistakably aggravating effect on the constitutional disease. The first patient was a vi-para of 31 who had given birth only

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to still-born children. At the eighth month a course of dieting excluding carbohydrates was commenced and the sugar speedily disappeared from the urine but coma developed at once, which was rapidly fatal. The fetus was macerated. The second patient, a woman of 25, had had no symptoms to call attention to her mild diabetes until the seventh month of her first pregnancy when she suddenly felt sick, with pain in the stomach region and difficulty in breathing, coma developing the third day. Artificial delivery of a macerated fetus did not avert the fatal outcome. The third diabetic patient aborted at the second month and recovered. The fetus generally dies sooner or later or is constitutionally inferior if it reaches term when the woman has diabetes even in a mild form, so that the question of inducing early abortion should be considered in such cases. The aim in dieting should be to reduce the glycosuria within bounds without acidosis rather than to try to banish the sugar altogether.

187. **Levulose Test of Liver Functioning.**—Schirokauer examined the blood, as well as the urine, in applying the alimentary levulose test, and found that this gives much better oversight of conditions, but he declares that levulose is not very well adapted for the purpose. Possibly simultaneous tests of the tolerance for both galactose and levulose may throw more light, investigating the alimentary proportion in the blood. In twenty-three cases the findings were conflicting with the levulose test; with extreme alimentary levulosemia in some cases there was no levulosuria and vice versa.

190. **Pregnancy Glycosuria.**—Mann asserts that the kidneys become hypersensitive to the sugar in the blood during pregnancy even when the proportion of sugar is normal or only slightly above. The amounts of sugar eliminated by the kidneys rise and fall with the intake of sugar.

Zeitschrift für Urologie, Berlin

November, VII, No. 11, pp. 865-944

193 *Hemorrhage from the Kidney in Hemophiliacs. (Nierenblutungen bei Hämophilen.) O. Mankiewicz.

194 Roentgenogram of Tuberculous Focus in Kidney Mistaken for Calculus. (Fall von irrtümlicher Deutung eines Nierenröntgenogramms.) A. W. Wischnewsky.

193. **Hematuria in a Hemophiliac.**—Mankiewicz's two patients were young men who had a history of serious hemophiliac hemorrhages in previous years; in both the hematuria came on a few hours or two days after a steam bath with massage or a superheated-air bath. The urine filtered without leaving any sediment, so that there must have been hemolysis as well. One patient was quieted with morphin and the tendency to hematuria subsided under gelatin internally, ergot, epinephrin and castor oil. This patient died suddenly a few months later from acute heart failure. The hematuria kept up in the other patient notwithstanding the usual measures, including subcutaneous injection of horse serum. Then, at a consultation, Kussmaul's old experience was recalled: He failed constantly on account of hemorrhage, in some experiments on dogs, until he kept the dogs from drinking, feeding them abundantly but giving them little if any water. On this dry diet the blood became so much thicker that there was no further tendency to hemorrhage. Mankiewicz acted on this suggestion in this rebellious case of hematuria, and the hematuria ceased as the patient refrained from fluids. He had the heroism to refrain for two weeks from drinking, and his food was prepared as dry as possible. The blood and organic juices thus became more concentrated, and contained proportionately more coagulatable substance. The result was complete subsidence of the manifestations of hemophilia. No record of the use of a dry diet in management of hemophilia is known to Mankiewicz, but he has found a reference in Leyden's works to his success in arresting a tendency to hemorrhage from the lungs, stomach or uterus by restricting the intake of fluids, and he added that he had found this a useful measure also in controlling habitual vomiting and diarrhea.

Mankiewicz says that on two occasions he had all in readiness to apply transfusion according to the technic described by Elsberg in THE JOURNAL, March 13, 1909, p. 887, but each time the hematuria let up under the gelatin by the mouth and restriction of fluids. The young man has kept up the gelatin by the mouth to date; it was given by subcutaneous injections during the first four weeks. The success in this case justifies the systematic, protracted administration of gelatin in connection with a dry diet as the routine treatment for severe uncontrollable hemorrhage in general, and particularly when the patient is a "bleeder." Even the simple technic for transfusion may prove a dangerous operation in a hemophiliac. The literature on hemorrhage from the kidney without appreciable local disease is reviewed.

Zentralblatt für Chirurgie, Leipsic

November 22, XL, No. 47, pp. 1809-1848

195 Cutting Off the Cardia as Preliminary to Resection of the Thoracic Portion of the Esophagus for Carcinoma. H. Fischer (New York).

196 Transpancreatic Choledochotomy. F. v. Fink.

November 29, No. 48, pp. 1849-1880

197 *Flap of Fat Tissue to Arrest Sheet Hemorrhage. (Die freie Fetttransplantation bei Blutungen der parenchymatösen Bauchorgane.) A. Hilse.

198 *Laceration of Semilunar Cartilage. (Zur Diagnose der Meniscusluxation und des Meniscusabrisses.) E. Bircher.

197. **Flap of Fat Tissue to Arrest Sheet Hemorrhage.**—Hilse comments on the dangers and drawbacks of using a flap of omentum, fascia or muscle tissue to apply to a bleeding surface in an abdominal operation. There is liable to be hemorrhage in the stomach when a piece of omentum is resected, and the bleeding may be threatening in character. To obtain fascia or muscle for the purpose requires another operation or, if taken from the abdominal wall, this is liable to injure the firmness of the wall. On the other hand, a piece of adipose tissue can be spared from the abdominal wall without harm while it seems to have special advantages for hemostasis, promptly arresting the hemorrhage over a large area after resection of part of the liver, spleen or kidney in nineteen rabbits, three dogs and in two clinical cases. In the clinical cases the liver had to be resected in removing a cancer in the gall-bladder, and in both cases the sheet hemorrhage from the liver cut surface stopped in a minute or two when the piece of fat was fitted over the bleeding area. In only a few of the animals did the hemorrhage keep up until the flap was sutured to hold it in place.

198. **Diagnosis of Laceration of Semilunar Cartilage.**—Bircher has found that in dubious cases it is possible to ascertain by auscultation of the knees whether the cartilage has been torn. It is important to compare the findings in the injured and the sound knee, with the patient in various positions. With a rubber ring the stethoscope can be fitted on the uneven surface of the joint.

Zentralblatt für Gynäkologie, Leipsic

November 15, XXXVII, No. 46, pp. 1677-1708

199 *Early Sign of Extra-Uterine Pregnancy. A. Solowij.

November 22, No. 47, pp. 1709-1740

200 *Permeability of Cervical Canal at Close of Pregnancy. (Durchgängigkeit des Cervicalkanals und des Muttermundes am Ende der Schwangerschaft.) J. Braude.

201 Pedunculated Skin Flap to Close Large Rectovaginal Fistula. (Verwendung gestielter Hautlappen zum Verschluss grosser Mastdarm-Scheidendefekte.) H. v. Ortenberg.

November 29, No. 48, pp. 1741-1772

202 Technic for and Advantages of Cross-Fire Roentgen Exposures. (Das Problem der "Kreuzfeuerwirkung" in der gynäkologischen Röntgentherapie.) H. Meyer.

203 *Resection of Promontory to Correct Contracted Pelvis. H. Rotter.

199. **Early Sign of Extra-Uterine Pregnancy.**—Solowij here reports another case in which his method gave decisive findings. The Abderhalden test for pregnancy had given a negative response and the suspicion of extra-uterine pregnancy was then given up until the positive response to his sign sustained the assumption of an extra-uterine pregnancy, confirmed by operation. If the pouch of Douglas is palpated and found normal and then palpation anew, a few hours later, shows a doughy resistance in the pouch of Douglas, all doubt as to the extra-uterine pregnancy is at once cleared up. He warns that as conditions are changing, the findings are comparatively transient.

200. **Permeability of Cervical Canal at Close of Pregnancy.**—Braude examined 180 primiparae in the ninth or tenth month and found the cervical canal and the os open enough to permit the passage of the finger in 46, and the canal remained open for from five to fifteen days in 20 of the women and from sixteen to twenty-five days in 9. Among 263 primiparae at the eighth or ninth month, the passage was open in 28, including 10 in whom it was permeable for five to fifteen days; 5, from sixteen to twenty-five days; 5, from twenty-six to forty-five days, and 3 from forty-six to sixty-four days. Among 14 at the seventh to eighth months the cervical canal and os were found open in 4 women and they persisted permeable for from seventeen to sixty-five days. The pregnancy in nearly all of the women proceeded to normal term irrespective of whether the passage had been open or not. Permeability of the cervix is thus not a sign of immediately impending delivery.

203. **Resection of Promontory to Correct Contracted Pelvis.**—Rotter declares that the experiences to date with systematic resection of the promontory to permit normal childbirth by enlarging the diameter of an abnormally narrow pelvis have amply confirmed the simplicity and comparative harmlessness of the method and the excellent and permanent results. It has been applied in nine cases to date. In his case, reported in detail, a woman of 32 had borne eight children but, each had died during the difficult labor as the true conjugate measured only 7.8 cm. He sliced off the front of the promontory and the woman had entirely recovered the seventeenth day. Examination five months later showed not a trace of callus; a smooth surface was felt instead of the projection of the promontory, and the diagonal conjugate measured 10.7 cm. against 9.3 cm. before the operation. Schmid's experience with the operation was summarized in these columns, Dec. 6, 1913, p. 2112. Rotter here remarks that Schmid did not do the operation until seven months after Rotter's first publication on the subject, and he thinks that Schmid's claim to share the priority for the operation raises the question as to whether science will accept as valid a seven months' interval for superfecundation of an idea.

Zentralblatt für innere Medizin, Leipsic

November 15, XXXIV, No. 46, pp. 1145-1168

204 *Murmurs Audible in Skull. (Ueber kranielle Geräusche.) H. Köster.

November 22, No. 47, pp. 1169-1192

205 Quinin Plus Collargol in Treatment of Pneumonia. (Beobachtungen über Ausdlösung der Krise bei kruppöser Pneumonie durch eine kombinierte Chinin-Kollargolbehandlung.) G. Grund.

204. **Murmurs in the Skull.**—Köster states that murmurs are audible inside the skull in more conditions than hitherto deemed possible, and they cannot be regarded as pathognomonic of any condition. The murmur heard when there is anemia from any cause may prove instructive as it grows less and less audible as the blood-supply returns to normal. He examined about fifty patients and found the murmurs distinct in a number of cases of hemorrhagic gastric ulcer or cancer, in pernicious anemia and with lesions localized in the skull. He found the murmurs more pronounced with abnormally low hemoglobin content than with low corpuscle count.

Gazzetta degli Ospedali e delle Cliniche, Milan

XXIX, Nos. 132-139, pp. 1383-1462

206 Hemostasis in Operating on the Liver. C. Gaetano.
207 Improvement in Blood Picture and General Condition after Removal of Enlarged Malarial Spleen. A. E. Cartolari.
208 Superiority of 5 Per Cent. Alcoholic Solution of Thymol over Tincture of Iodin for Sterilization of Hands and Field. G. Monzardo.
209 Aid from the Blood-Count in Diagnosis of Measles. E. Mensi.
210 Nodose Erythema in Connection with Tuberculosis; Four Cases. A. de Blasi.

Policlinico, Rome

November 24, XX, No. 47, pp. 1693-1728

211 Freshly Distilled Water for Intravenous Injection of Salvarsan. M. Mantovani.
212 Dangers of Physical Overexertion. (Alcune considerazione sulle strapazzo fisico.) P. Ercolani.
213 Medical Symbols in Ancient Babylon. (Babilonia e la medicina ippocratica.) V. Pensuti.

November, Surgical Section No. 11, pp. 481-528

214 Advantages of Endothoracic Route and Fascia Flaps to Close Defects in Diaphragm. G. Giordano and L. Stropeni.
215 Nerve-Splicing for Traumatic Facial Paralysis; Two Cases. (Incrocio totale spino-facciale per lesione traumatica del facciale.) G. Serafini.
216 Operability of and Abscess to Tumors in the Pineal Gland. F. Nassetti.
217 Brachial Tumors; Two Cases. (Formazione congenita mediane del collo.) E. L. Piazza.
218 Experimental Inflammatory Lesions in the Hypophysis Region. A. Chiasserini.
219 Experimental Urethra Grafts. (Traplanti d'uretra.) G. Pinardi.

Riforma Medica, Naples

November 1, XXIX, No. 44, pp. 1205-1232

220 *Skin Tuberculin Reaction in Whooping-Cough. O. Cozzolino.

November 8, No. 45, pp. 1233-1260

221 Histologic Changes in the Bulbar Nerve Centers in Acid Intoxication. G. Lucibelli.
222 The Wassermann Reaction and Salvarsan Treatment in Inherited Syphilis. E. Mensi.
223 Postoperative Ileus. G. De Francisco. Commenced in No. 44.

220. **The Skin Tuberculin Reaction in Pertussis.**—Cozzolino applied the Pirquet test to 200 children with whooping-cough during a recent epidemic at Cagliari, repeating the test in a few instances. Contrary to what is observed in the acute eruptive diseases such as measles, the skin reaction was not modified by the presence of the pertussis, the findings corresponding to those usual in other conditions outside of the erythematous diseases. Supplementary tests with the Mantoux technic for the intradermal tuberculin reaction confirmed in every respect the findings with the Pirquet technic.

Rivista Ospedaliera, Rome

October 31, III, No. 20, pp. 877-916

224 *Operative Treatment of Cancer of the Colon. R. Bastianelli.

224. **Cancer of the Colon.**—Bastianelli's article opened the discussion on cancer of the colon at the recent international medical congress at London. He discusses the different indications according as the tumor is in the colon on the right or left side. When ileus is already installed the mortality is high—it was 60 per cent. in 84 cases in the literature since 1900. In 356 cases of cancer of the colon on record in which a single operation was done, the mortality was 33.4 per cent., but in the 44 operated on since 1905 it was only 4.5 per cent. In 68 comparatively recent cases of cancer in the right side the mortality was only 8.8 per cent.—a great change from the 35 per cent. of the total statistics. His compilation includes further 69 cases in which the operation was done at three sittings, with a mortality of 21.7 per cent., and 143 cases in which the Mikuliez-Paul method was applied, with mortality of 2.5 per cent. The mortality of the total 739 cases not complicated with ileus was thus 26 per cent.; but in the last few years it was only 9 per cent. for the right and 15 per cent. for the left side. The patients surviving for more than three years form 29 per cent. of the above. Only 29 per cent. of the total 739 patients have survived for three years or more to date. This is equivalent to the statement that only thirteen are left alive by the end of three years out of every hundred persons with cancer of the colon. Three additional ones drop out from recurrence a year or so later, so that only an average of 10 per cent. are permanently cured by our best technic to date.

Meditsinskoe Obozrienie, Moscow

No. 14, LXXX, pp. 267-286

225 Technic for Auscultation. I. A. Strelkoff.
226 Roentgen-Ray Examination of the Kidneys. L. A. Jacobson.
227 Biochemical Basis for Dieto-Therapy of Nephritis. I. S. Chuprin.

Hospitalstidende, Copenhagen

November 19, LVI, No. 47, pp. 1381-1412

228 Phagocytosis in the Test-Tube with and without Presence of Serum. (Studier over den spontane Fagocytose.) O. Wulff.

Ugeskrift for Læger, Copenhagen

November 13, LXXV, No. 46, pp. 1815-1846

229 Application of Copper to Urethral Mucosa by Means of Continuous Electric Current. (Kobberindførelse i Urethralslimhinden ved Hjælp af konstant elektrisk Strøm.) S. Lomholt.
230 Saline Infusion Plus Hypophysis Extract in Treatment of Eclampsia. C. de Fine Licht.

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